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Audio Virology and Affect Contagion in the Times of Preemptive Power and Sonic Futurism: The Sonic Warfare of Fatima Al Qadiri

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Section I: Introduction

War of the Senses

War is often defined through the senses: the taste of blood, the scream of sirens, earth shattering beneath your feet, the smell of napalm in the morning. Yet each of these statements extends beyond sensory perception alone; they evoke threats, fears, even metaphysical encounters. War's extra-sensory explosions of the mind and body can be understood to operate through the plane of *affect*, or the vaporous aura of sensations as they become filtered through physiological as well as symbolic systems, functions and bodies. Amid its temporary calcification into tangible, fungible states of emotion, affect denotes the fleeting transmission, modulation, circulation and *becoming* of "moods, feelings and intensities"[1] within and between bodies. Affect theory concerns bodies in a broad scope: human or inhuman, organic or inorganic, individual or collective, material or immaterial. Basically, affect works through anything that can feel or be felt, move or be moved, act or be acted upon.

Discourses of war feature a range of affective bodies. From corpses to military *corps* to military-industrial corporations to imagined national bodies and embodied subjectivities, bodies act upon one another throughout the broadest definitions of warfare. Far from contained to the bloody imbrication of human bodies and war machinery on the battlefield, warfare includes the practice of psychological operations, crowd control, deception and torture. Be they practiced by standing armies or local police departments,

[1] Marie Thompson and Ian Biddle, "Introduction: Somewhere Between the Signifying and the Sublime," in *Sound, Music, Affect: Theorizing Sonic Experience* (New York: Bloomsbury, 2013), 5.

these tactics all fall under the mushroom cloud of warfare's affective manipulations, hacking faculties of sleep, thought, breath, emotion and spatial-temporal orientation. These tactics work through distinctly material dimensions, from lead, to flesh, to sound vibrations, as militarized modulators and synthesizers of affect. Affect draws attention to the material properties of what Cartesian philosophy would reduce to the intangible, immaterial mind: take the psychological effects of warfare on the human psyche as evidence. Worming from the world into the mind, the affects of war find expression today in increasingly vernacular contexts, from domestic policing to borders, urban planning and public architecture–war extends far beyond the traditional battlefield.

This project examines the State's use of sound technologies in particular to conjure affects facilitative of the maintenance and control of human bodies and political activities. In tension with this current, I will also study the subversion of sonic war machinery by cultural workers and musicians in the production of transnational political solidarities against the state militarization/securitization of life and preemption/commodification of death–a socio-economic paradigm fed by the (neo)colonial underbellies of capitalist modernity, from the Transatlantic Slave Trade to the colonization and military exploitation of the 'Middle East'. I will begin with the affective properties of sound and music, including their relationships to spatial orientation and time, and their contemporary deployment in the context of political protest. From this framework I will move to better understand state manipulations of affect in the exercise of preemptive power, or the "delivery of reliable [political] futures."[2] Launching a

[2] Kodwo Eshun, "Further Considerations on Afrofuturism," *The New Centennial Review* 3, no. 2 (Summer 2003): 289.

counternarrative against the state's prediction/prescription of future history, I turn next to the sonic, literary, and temporal interventions of Afrofuturism into the State preemption of continued, protracted Black disenfranchisement, and extend/embed these lines of flight to another geopolitical and pop-cultural context plagued by prophecies of endless social, cultural and political blight: the Middle East, the site of the cynically dubbed 'forever wars'. Through these lenses I seek to demonstrate the affective, future-facing and speculative character of political imagination and the social realities that spring from such imaginations of the future. From here, I explore the sonic ecologies and affective tonalities of electronic music diasporas that engage (or claim to engage) in sonic, political and cultural resistance against the rising tides of surveillance, militarization and racialized othering in late capitalist control societies. How does the technocapitalist nation-State deploy sonic technologies to produce affective relationships to the future? How do cultural workers employ sonic materials and tools derived from the same technologies to resist the state's affective forces? How do competing discourses, ontologies, and materials of warfare work literally and metaphorically in this asymmetrical struggle? A host of future imaginaries are at stake in the production and deployment of sound in all its affective potentials. More precisely, the realms of what are considered feasible and infeasible political futures are on the table; shaping in turn the political discourses and manoeuvers of the present.

In the Introduction to *Sound, Music, Affect* (2013), Marie Thompson and Ian Biddle describe the "aura"[3] of a 2010 student protest in London; a scene charged by the commandeering of an aux cord and the subsequent booming of UK Grime music over a

[3] Thompson and Biddle, "Introduction," 3.

sound system in Parliament Square. Despite the racially-coded politicization of the genre by British authorities as socially disruptive, dangerous and subversive, Grime was not alone in soundtracking the early-2010s British protest scenes.[4] Thompson and Biddle remark that "what was more difficult for commentators to reconcile was the role of chart pop music during the protests."[5] The unlikely 'protest' musics of chart pop and UK Grime, genres known to be distinctly mass-commercial and underground, respectively, mobilized large crowds under the right's political kettle. To better understand the role of music in mobilizing these crowds–the "energy and the aura" of the event[6]– Thompson and Biddle turn to the kaleidoscopic framework of affect theory to understand how music and sound might facilitate and mobilize social movements and political resistance. Working from the analogy of "aura," Thompson and Biddle describe affect in this case as "a particular ambience or atmosphere…" that is produced, induced, or otherwise born into existence by "the induction, modulation and circulation of moods, feelings and intensities, which were felt but, at the same time, belonged to nobody in particular."[7] According to this account, it was not necessarily the political lyrical content of songs that moved crowds to action, but the musics' rhythms, tones, and distribution of frequencies. Our culprits are the clattering of drums, the defiance of a soaring tenor, or the bone-shaking blast of an amplified bassline. Through the sense of hearing, these elements affect the individual and the crowd as one, acting as a catalytic substance beckoning one dynamic moment to the next.

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[4] Ibid, 4.
[5] Ibid.
[6] Ibid, 5.
[7] Ibid.

To explore these concepts in the practical context of twenty-first century electronic music, this paper will culminate in the sonic, fictional and futurist analysis of two songs by Kuwaiti artist and producer Fatima Al Qadiri. I contend that Al Qadiri's 2012 EP *Desert Strike* and 2016 LP *Brute* enact instances of fictional sonic warfare against the futurological interests and investments of predatory technocapitalist nation-States, the hyperreal aestheticization of warfare, the militarization of civilian life, the criminalization of protest and the narrative collusions of western science fiction and the military-industrial-entertainment complex. On *Desert Strike*'s "Ghost Raid," Al Qadiri crafts a sonic war machine from the sonic futurist tools of the rhythm sequencer, the synthesizer, and the modulation and filtration of frequencies. I contend that this instance of sonic warfare reproduces the State's ecology of fear in the context of song; transforming or exorcising its predatory and fear-inducing affects into a narrative of her experience of the Gulf War that serves doubly as a critique of the hyperreal representation of the war which reduced its human impacts and casualties to the aesthetic realm of military simulation. On *Brute*'s "Endzone," Al Qadiri takes aim at the militarization of police and criminalization of protest in allegedly liberal, democratic societies. Reproducing in a hyperreal fashion the mood, ambience and intensity of fear found in an American military-police kettle, "Endzone" situates listeners in a spatial and temporal narrative of police brutality and political repression. Both tracks deploy abuses of military-industrial sound technologies, produce anticipatory listening atmospheres akin to Steve Goodman's understanding of the ecology of fear, and intervene in the contemporary political moment by venturing backward and forward in time. Together, I contend that Al Qadiri's work constitute instances of sonic warfare against the State. Al

Qadiri's music works to critique the State's weaponization of sound technologies and attempted monopoly on the affective deployment of sound. Producing disconcerting, often alienating soundscapes, Al Qadiri's music also works against the attempted silencing and repression of the sounds of aggrieved civilians and cultural workers by the State. In sum, Al Qadiri's sonic warfare operates on the register of storytelling and resistance; sonic fiction and futurism that take aim at the projected futures designed by the preemptive logics of State power and predatory capital.

Section II: Affect Theory

Extrasensory Explosions: Affect vs Emotion

Soaring ecstasy, a sinking feeling, to be beside oneself with grief, or driven out of one's mind in annoyance or love. Oftentimes the complexities of human experience are expressed as metaphorical elaborations on the relationship of body and mind. Yet each of these opening phrases exceeds easy categorization as expressions of either abstract thought or external sensory perception alone. They evoke emotionally as well as physically felt hopes, fears, and subjective depths. In this paper, the experience, potentials and production of these extra-sensory explosions of the mind and body will be understood on the plane of *affect*. In light of the emotional connotations of my opening example phrases, and given that emotions are very much comprehensible in terms of both abstract thought and sensory experience and as such are often conflated with affect, this journey can begin with the question of how affect differs from emotion. Brian Massumi writes that "an emotion is a subjective content, the sociolinguistic fixing of the quality of an experience which is from that point onward defined as personal."[8] Affect, on the other hand, is the vaporous aura of impersonal sensations as they become filtered through physiological as well as symbolic systems, bodies and functions. Using the example of fear to illustrate the relationship between affect and emotion, Steve Goodman describes how "the continuous, qualitative, intensive vector of affective tonality is chopped into comparable, relative, numbered magnitudes (more or less frightened). In parallel, then, as affect becomes emotion, sensation becomes perception and movement finds pause. The

[8] Brian Massumi, "The Autonomy of Affect," in *Parables for the Virtual: Movement, Affect, Sensation* (Durham: Duke University Press, 2002), 28.

fearful feeling becomes a feeling of fear."[9] With the intention of avoiding a hard binary between the two, as both are mutually impinging, affect tends toward fluid, immediate sensation and motion, whereas emotion tends to suggest more fixed and hierarchized states of being. Massumi contends that affect operates preconsciously, amid the cognitive differentiation of subject and object in the world. Time gradually conditions, calcifies and sediments these preconscious physiological and sociolinguistic affects into conscious and relative emotional outlooks. Amid its calcification over time into tangible, fungible states of emotion, "into narrativizable action-reaction circuits, into function and meaning,"[10] affect denotes the fleeting transmission, modulation, circulation and becoming of "moods, feelings and intensities"[11] within and between bodies. While I take care to avoid a firm dichotomy between affect and emotion and the conscious and the preconscious, affect conditions preconsciousness as it is becoming conscious, operating through and between any body that can act or be acted upon, move or be moved, affect or be affected, toward but prior to a firm cognitive state of being. As such, affects are subject to constant ambient modulation.

Bodies, Broadly

Crucially, the 'bodies' at play in the theorization of affect are bodies defined "not by an outer skin-envelope or other surface boundary but by their potential to reciprocate or co-participate in the passages of affect."[12] A human body participates in affective transmissions, as does a body of knowledge, as does a body of water or a political body

[9] Goodman, Steve. *Sonic Warfare: Sound, Affect, and the Ecology of Fear*. Cambridge: MIT Press, 2012, 72.
[10] Massumi, "The Autonomy of Affect," 28.
[11] Thompson and Biddle, "Introduction," 5.
[12] Melissa Gregg and Gregory J. Seigworth, "An Inventory of Shimmers," in *The Affect Theory Reader*, ed. Melissa Gregg and Gregory J. Seigworth (Durham: Duke University Press, 2010), 2.

such as a community, a nation or a state. The qualification is a body's "capacities to act and be acted upon … a body's never less than ongoing immersion in and among the world's obstinancies and rhythms … a body's *belonging* to a world of encounters."[13] Rather than limit affect to the bodies of particular human individuals as is done with emotions, the ability of seemingly independent bodies to affect and be affected through encounters with one another implies "*a form of relation* … to mark the passages of intensities … in body-to-world/world-body mutual imbrication."[14] Affective bodies are human and inhuman, organic and inorganic, individual and collective. The mutually affecting imbrication of bodies and their world environments is at the heart of affective transmission. Furthermore, the crucial distinction that the bodies at play in the transmission of affect need not be human opens the study of affect to relations among humans and machines, corporations, nations, states, discourses (or bodies of knowledge), and countless other entities including architectures, institutions, virtual platforms, physical vibrations and beyond. All of these bodies and their mutually imbricated relationships with the world are mediated and inflected by the affective dimension situated between the world's raw, unfiltered ontological existence and the conscious mind's subjective filters, outlooks and interpretations. One body cannot exist without inflecting and influencing the space occupied by other surrounding bodies. Affect thus plays the role of a precognitive filter, a vaporous field of tones and sensations that prefigures and conditions conscious thought, feeling and emotion.

[13] Ibid, 1-2.
[14] Ibid, 13.

Becoming Feeling

Nebulous, lodged and wandering somewhere between the seal of individual subjectivity and the porosity of object-environment imbrication, affect demands further definition if we are to understand its capacity to activate, stultify, or otherwise participate in social, cultural and political movements. In an effort to locate the affective transmission grounds of "moods, feelings and intensities"[15] in dynamic social settings, Melissa Gregg and Gregory J. Seigworth write that the powers of affect lie in "affect as potential; a body's *capacity* to affect and be affected." (2) The element of potential cannot be understated, as affect is situated in the fleeting 'in-between' of states of being and becoming. Affect thus constitutes "an impingement or extrusion of a momentary or sometimes more sustained state of relation, as well as the passage (and the duration of passage) of forces or intensities."[16] An affective turning point could refer to a sudden 'dip' in mood; a 'faltering' hope, or inversely, a 'second wind'. Each of these examples holds its own sense of potential, intimating speeds and directions of flows, forces, rhythms, feelings and intensities. These flows, forces, feelings, rhythms and intensities are never static, always shifting and relating to other feelings and intensities, and always passing from one affective moment into the next. Affect "*accumulates* across both relatedness and interruptions in relatedness…" evoking the image of "a palimpsest of force-encounters traversing the ebbs and swells of intensities that pass between 'bodies.'"[17] Affects constantly emerge and impress upon bodies, only to replace themselves with new affects in the next moment. Affect thus intimates toward the future, "casting illumination upon the 'not yet' of a body's doing, casting a line along the hopeful (though also fearful) cusp

[15] Thompson and Biddle, "Introduction," 5.
[16] Gregg and Seigworth, "An Inventory of Shimmers," 1.
[17] Ibid, 2.

of an emerging futurity, casting its lot with the infinitely connectable, impersonal, and contagious belongings to *this* world."[18] The study of affect thus concerns futurity, becoming, the emergent and the not-yet, and does so without distinction of internal subjects and external objects amid the mutual imbrication of bodies in the world.

Despite affect's inclination toward futurity, becoming, the emergent and the not-yet, affect theorists resist the suggestion that this necessarily denotes a forward-moving, scientifically or politically 'progressive' movement insofar as the notion of 'progress' is linked to a capitalistic teleology of human existence. Rather, affect "bears an intense and thoroughly immanent neutrality."[19] Neutrality here does not refer to a distanced disinterest or "indifference to the present, to existing conditions."[20] Rather, neutrality refers to the immanent potential of affect to modulate, synthesize and induce new states of being from the present, from the present's context without predetermined purpose or teleology. The immanent neutrality of affect allows it to "elude easy polarities and contradictions,"[21] meaning that there are "no ultimate or final guarantees– political, ethical, aesthetic, pedagogical, and otherwise."[22] Reading Roland Barthes' definition of neutrality, Gregg and Seigworth observe that analyses of affect do not proceed "by way of the binaries of structuralism ('yes/no')"[23] but as "a matter of accounting for the progressive accentuation (plus/minus) of intensities, their incremental shimmer: the stretching of process underway, not position taken."[24] Resonating with its future-tilted

[18] Ibid, 4.
[19] Ibid, 10
[20] Ibid.
[21] Ibid.
[22] Ibid, 9.
[23] Ibid, 10.
[24] Ibid, 11.

element of potential, the qualities and tonalities of affect remain perpetually and unabashedly open-ended, able to shift and morph interminably and indeterminately from moment to moment.

The Rhizome Structure

Imbued with this immanent neutrality, affect theory has drawn inspiration from Gilles Deleuze and Felix Guattari's formulation of the rhizome, a structure of knowledge which they differentiate from the binaristic structure that Barthes' definition of neutrality also seeks to succeed. I liken affect to Deleuze and Guattari's structure of the rhizome insofar as it is fleeting, sourceless, yet entirely interconnected, constantly fleeing and morphing from its current conditions into future evolutions and relations. Emotions, in contrast, are akin to arborescent structures, traceable from their definite roots to their tangible, numerable branches of degrees, intensities and outlooks. Deleuze and Guattari dub the latter, binaristic structure the genealogical root, "the most classical and well reflected, oldest, and weariest kind of thought" in which truth is "dichotomous,"[25] produced through binaries of identity/non-identity. Roots may be likened to emotions insofar as they are calcified, with relatively firm and stable identities. Rhizomes, in contrast, like affects, arrive at truths constantly through principles of heterogeneity, multiplicity, and asignifying ruptures. Deleuze and Guattari's lateral approach to the rhizomatic production of knowledge emphasizes magnitudes rather than true/false identities, resonating with affect's concern with fluid, momentous intensities rather than stable, crystallized states. Rhizomatic knowledge is "detachable, reversible, susceptible to constant modification,"[26]

[25] Gilles Deleuze and Felix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, trans. Brian Massumi (Minneapolis: University of Minnesota Press, 1987), 5.
[26] Ibid, 12.

just as affect is impersonal, lateral and susceptible to constant modulation. As with the fleeting transmission of affective moods from moment to moment, feelings and intensities, "every rhizome contains lines of segmentarity according to which it is stratified, territorialized … as well as lines of deterritorialization down which it constantly flees."[27] These lines of flight modulate, reconfigure and constantly reconstitute assemblages of language and knowledge as "multiplicities" with "neither subject nor object, only determinations, magnitudes and dimensions that cannot increase in number without the multiplicity changing in nature."[28] The rhizome's disintegration of subject and object, emphasizing on magnitudes and intensities over states and identities, reflects Gregg and Seigworth's description of affect's concern with "the progressive accentuation (plus/minus) of intensities … the stretching of process underway, not position taken."[29] Rhizomes, like affects, are never concerned with permanent settlement or conclusion. They concern immanence, imbrication and movement underway as an unending process.

Affect can be illustrated through Deleuze and Guattari's notions of territorialization, deterritorialization and reterritorialization, which inform the transmission, modulation and reproduction of affects between bodies. Affect, like rhizomatic knowledge production, always emerges and integrates from a given context, only to be instantly inflected and subsumed toward the becoming of the future. Each fluctuation of affective tone may mimic, alter, derail, flee from or deterritorialize the given context that produced it toward a new affective syntax, which will soon experience the same process itself. To illustrate the mutual imbrication of rhizomatic elements, Deleuze and Guattari's

[27] Ibid, 9.
[28] Ibid, 8.
[29] Gregg and Seigworth, "An Inventory of Shimmers," 11.

exemplify the reproductive relationship between wasp and orchid, how "the orchid deterritorializes by forming an image, a tracing of a wasp; but the wasp reterritorializes on that image. The wasp is nevertheless deterritorialized, becoming a piece in the orchid's reproductive apparatus. But it reterritorializes the orchid by transporting its pollen."[30] The orchid forms an image of the wasp insofar as the wasp's bodily contact with the orchid forms an impression on the orchid – the wasp leaves behind the shape formed from the contours of its body on the orchid. Conversely, the orchid also impresses itself upon the wasp. The wasp collects pollen on its contact with the orchid's body, the pollen adopting the shape and contours of the wasp's body in the process. Both bodies form one and the same reproductive apparatus through their mutually affecting, "impinging/extruded belonging to worlds, bodies, and their in-betweens."[31] Affect does not only de/reterritorialize seamlessly from body to body, it also acts as the vaporous glue or rhizomatic structural apparatus that holds the bodies together in the same space, giving them meaning to one another. This process is endless and prismatic; affect constantly moves "to new territories and a dismantling of the old, ever toward the infinite possibilities contained within our bodies, our friends … and their ecological contexts."[32] In both cases, affective and rhizomorphic, motion revolves around the capacities of bodies to affect and be affected by one another. Affective movements in particular transition through "the sensations of events as they come into being," yet are bound by "affect's *virtuality*" or "the pool of *relational potential*" of all possible events, turns or interruptions "from which the affective event is drawn."[33] Immanent, potential, and

[30] Deleuze and Guattari, *A Thousand Plateaus*, 10.
[31] Gregg and Seigworth, "An Inventory of Shimmers," 4.
[32] Lone Bertelsen and Andrew Murphie, "An Ethics of Everyday Infinities and Powers: Felix Guattari on Affect and the Refrain," in *The Affect Theory Reader*, ed. Gregory J. Seigworth and Melissa Gregg (Durham: Duke University Press, 2010), 153.
[33] Ibid.

future-facing, these processes are immediately subject to further modulation, modification and de/reterritorialization *ad infinitum*, similarly to "affect's impinging/extruded belonging to worlds, bodies, and their in-betweens –affect in its immanence."[34] Rhizomes, like affect, thus produce complex maps of meaning and intensity that are shifting and irreducible to any single point of origin, always immanent, always potential, always future-inflected. The similarities of affective transmission and rhizomatic de/reterritorialization support the argument that the future at stake in the analysis of affect is indeed potential, uncertain and unstable, insofar as it is immanently neutral, constantly morphing and indeterminably morphable in flows, rhythms and magnitudes of intensity.

Media and Materials

In light of the future-inflected potential and immanent neutrality of affect, I now turn to the media or materials through which affects transpire, and through which situations conductive or inhibitive of particular affects can be fashioned. In *Encountering Affect* (2014), Anderson discusses three central translations of the concept: "affect as an *object-target* of apparatuses; affect as a *bodily capacity* emergent from encounters; and affect as a *collective condition* that mediates how life is lived and thought."[35] While we have discussed affect as the bodily capacity to affect and be affected, this bodily capacity extends beyond the individual, permeating and shaping the moods, feelings and intensities of the *collective condition*. Fear, to employ Goodman's example, slows and solidifies from a frantic "fearful feeling" to a steady "feeling of fear" after having been

[34] Gregg and Seigworth, "An Inventory of Shimmers," 4.
[35] Ben Anderson, *Encountering Affect: Capacities, Apparatuses, Conditions* (Burlington: Ashgate, 2014), 18.

"chopped into comparable, relative, numbered magnitudes (more or less frightened)"[36] amid the calcification of affect into emotion. Fearful feelings have been known to affect populations on a collective scale, indeed mediating "how life is lived and thought,"[37] as exemplified by Brian Massumi's elaborations in "The Future Birth of the Affective Fact"[38] on how the United States' strategic deployment of threat affected fear in the American population, greasing the wheels of popular consent to the invasions of Iraq and Afghanistan and laying the foundation for preemptive declarations of states of emergency at any state-sanctioned call to alarm. Massumi identifies the sounding of alarm as the triggering element that expands fear from an individually felt affect to a collective affective atmosphere, writing that "threat is capable of overlaying its own conditional determination upon an objective situation through the mechanism of alarm."[39] This "overlaying conditional determination" of fear on a situation– the overriding of objective knowledge of a situation with "the more compelling, future-oriented, and affective register"[40] of fear– approaches the translation of "affect as an *object-target* of apparatuses."[41] In Massumi's text, fear is the *object-target* of the American state apparatus insofar as the state apparatus targets fear as the object it seeks to affect through the mechanism of alarm. In this sense, Massumi suggests that alarm is "affectively self-causing,"[42] and this is precisely the function, the *target-object* of a state of emergency, leveraged through the *bodily capacity* of the state to raise an affective

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[36] Goodman, *Sonic Warfare*, 72.
[37] Anderson, *Encountering Affect*, 18.
[38] Brian Massumi, "The Future Birth of the Affective Fact: The Political Ontology of Threat," in *The Affect Theory Reader*, ed. Melissa Gregg and Gregory J. Seigworth (Durham: Duke University Press, 2010), 52–70.
[39] Massumi, "The Future Birth of the Affective Fact," 58.
[40] Ibid, 58.
[41] Anderson, *Encountering Affect: Capacities, Apparatuses, Conditions*, 18.
[42] Massumi, "The Future Birth of the Affective Fact," 54.

atmosphere or *collective condition* of alarm that impacts bodies and their bodily capacities. Affect remains trained on objects as they exist in the world; an objective to be achieved; a desired affect to be induced by a state of emergency.

Between the Performative Act and the Innervated Flesh

Regarding the affective call to alarm, Massumi exemplifies the work of alarm on the plane of affect insofar as it is simultaneously "nervously compelling" and "immediately performative."[43] The performative clause of Massumi's claim implicates the symbolic social sign as a trigger of affect, for example the written declaration of a state of emergency disseminated by the state through mass media channels to the public. However, the "nervously compelling" element, the operation of affect through "the innervated flesh"[44] of the physical human body and nervous system, extends the forcefield of affect beyond sociolinguistic cognition alone. Affect's confluence of the often differentiated categories of the symbolic and the biological demands consideration of a nexus of perceptual tensions between the cultural and discursive conditioning of signs and the autonomic and physiological systems and senses of human bodies. Goodman elaborates on the imbricated symbolic and physiological dimensions of affect through his examination of literal alarm bells[45]. Regarding the simultaneously symbolic and physiological functionality of sirens, Goodman writes that a siren's "very modulation of frequency produces a state of alert that can undermine and override cognition."[46] The sound frequencies at play are physical vibrations, material bodies that affect the human

[43] Ibid, 64.
[44] Ibid.
[45] Goodman, *Sonic Warfare*, 63.
[46] Ibid, 66.

body's "ability to interpret sounds and attribute likely causes to them [that] is learned culturally," which itself "is built on top of an evolutionary hard-wired instinct to respond appropriately, for the sake of survival."[47] Symbolic and physiological systems work in tandem in response to the affective trigger of the sound of an alarm. This distinction collapses the bifurcation of hearing as a symbolic, cultural practice and hearing as a physical, physiological mechanism, echoing Massumi's contention that "the bodily activation event occurs at a threshold where … the body cannot distinguish its own 'instincts' from the reawakening force conveyed by the sign's formative performance."[48] Massumi elaborates that "the zone of indistinction between the body reactivating and the action of the sign extends to the shared environment that encompasses and ensures their correlation," again pointing to the mutual material imbrication of bodies and their environments, symbols and physiologies, the organic and the inorganic in the production and transmission of affect. Concluding his chapter, Goodman echoes Massumi's articulation of the indeterminate in-betweenness of affect, remarking that "the point of departure for an affective analysis is the disjunction between stimulus and response, cause and effect."[49] Driving the conversation forward, Goodman asks, "if affect operates across the nature-culture continuum, problematizing the difference between what is preprogrammed into the body and what are learned responses, then what is meant by an instinctual response to sound?"[50] As we continue to examine affect's multiple roles as *object-target*, *bodily capacity* and *collective condition*[51], the ways in which affect

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[47] Ibid.
[48] Massumi, "The Future Birth of the Affective Fact," 65.
[49] Goodman, *Sonic Warfare*, 67.
[50] Ibid, 67.
[51] Anderson, *Encountering Affect*, 18.

operates through, from and between external sensory perception and internal symbolic cognition will continue to be of importance.

Throughout *Sonic Warfare: Sound, Affect, and the Ecology of Fear* (2012), Steve Goodman contends that indications to and expressions of affect are "pansensory"[52], operating through Massumi's "innervated flesh"[53] of the physiological, autonomically perceiving, feeling and reacting human body, and manifesting collectively as a sense of "ambience or atmosphere."[54] This "*environmental* power"[55] of affect to envelop and modulate collective moods and atmospheres leads us to the point that non-human bodies and materials such as architectures and national imagined communities can manipulate affect through the construction of situations, environments and autonomic responses intended to hack the affective receptors and emotional responses of human bodies that exist in or pass through them. Rather than rely on strict positive definition of such situations and encounters for an affective atmosphere to take hold of bodies, Anderson argues that "it is the very ambiguity of affective atmospheres– between presence and absence, between subject and object, between subject and subject, and between the definite and indefinite – that enables us to reflect on how something like the affective quality, or tone, of something can condition life by giving sites, episodes or encounters a particular feel."[56] Warfare, for example, weaponizes a mushroom cloud of affective manipulation, hacking faculties of sleep, thought, breath, emotion and spatial-temporal orientation. Beyond the traditional battlefield, tactics of psychological warfare, crowd

[52] Goodman, *Sonic Warfare*, 64.
[53] Massumi, "The Future Birth of the Affective Fact," 64.
[54] Thompson and Biddle, "Introduction," 5.
[55] Massumi, "The Future Birth of the Affective Fact," 62.
[56] Anderson, *Encountering Affect*, 137.

control and torture work through distinctly material dimensions, from lead, to flesh, to sound vibrations, as militarized modulators and synthesizers of affect that have been extended beyond the traditional battlefield to increasingly vernacular law enforcement settings. However the principle of neutrality also means that affect may be employed for non-military or even anti-military purposes, as through the cultural production of music for liberatory political causes whose theorization in relation to affect is extensive and will be explored further in this paper.

Affect Contagion

From crowd control to liberation movements, affect's immanent neutrality and future-tilted potential shines through in its ability to shape and modulate collective moods in a wide variety of tones, rates, directions and intensities. Scholars have referred to this as affect contagion, the capacity of affect to pass, spread and replicate from body to body, producing collective affective atmospheres from the relations between individual bodily capacities. Anna Gibbs approaches affect contagion from the terms of "mimetic communication," or mimesis, by which she refers to "the corporeally based forms of imitation, both voluntary and involuntary."[57] For Gibbs, affect contagion, as "the bioneurological means by which particular affects are transmitted from body to body," is at the heart of understanding the mimesis of affects in day to day social and political situations. Resonant with Massumi and Goodman's discussions of alarm's simultaneous affective activation of symbolic and biological orders, "the distinct neurological profile of each affect is correlated with particular physical sensations, including muscular and

[57] Anna Gibbs, "After Affect: Sympathy, Synchrony, and Mimetic Communication," in *The Affect Theory Reader*, ed. Melissa Gregg and Gregory J. Seigworth (Durham: Duke University Press, 2010), 186.

glandular and skin responses,"[58] even when these affects are induced by symbolic or discursive signs such as language. According to seminal affect theorist Silvan Tomkins, "affects are not private obscure internal intestinal responses but facial responses that communicate and motivate at once both publicly outward to the other and backward and inward to the one who … expresses his affects."[59] Although a facial expression such as a smile poses an important node for affect's indeterminacy between culturally learned indications to smile and the biological function of a smile itself (releasing dopamine), Gibbs is quick to add that facial expression is not the only medium of affect contagion. Affect contagion is widely mediatized by sonic and visual logos such as the graphic insignia and musical jingles of multinational corporations that "generate feelings that mobilize the body's capacity for synesthesia, in which affect seems to act as a switchboard through which all sensory signals are passed."[60] Gibbs elucidates the synesthetic capacities of affect through Daniel Stern's examination of the "elusive qualities … captured by dynamic, kinetic terms"[61] employed to describe logos. For example, the Nike 'swoosh' marks a downward trend followed suddenly by a swift, up-and-away movement toward the sky. Its descriptive term, 'swoosh', begets a similar swiftness and dynamism. More immediately it also resembles a checkmark, a near-ubiquitous symbol of affirmation. Gibbs writes that "these activation contours *qualify* the discrete affects, corresponding to the pace of rising and falling levels of their arousal."[62] For example, the visually and symbolically affected dynamism of the Nike swoosh logo gels with the dramatic, high-stakes timbre of Nike's ideological messaging

[58] Ibid, 191
[59] Silvan S. Tomkins and Carrol E. Izard, *Affect, Cognition, and Personality: Empirical Studies* (London: Tavistock Press, 1966), vii.
[60] Gibbs, "After Affect," 192.
[61] Daniel Stern, *The Interpersonal World of the Infant* (New York: Basic Books, 1985), 55-7.
[62] Gibbs, "After Affect," 192.

that athleticism is a heuristic, hopeful, progressive human activity. Consumers of athletic products are thus impelled to purchase Nike goods with that same affect or energy, "conscripted into its flows at a level we might term … 'preindividual.'"[63] The contagious element of affect in this situation is recognizable in the ubiquity of Nike's branding in proportion to its multinational marketing and production capabilities. Its message, and more importantly its affect, infects as far as its media presence travels.

Potential Moods, Feelings, and Intensities

Certain questions remain. Through what and whom can affect operate and travel? Gibbs defines affect as "not a property of either subject or object, but a trajectory in which both are swept up."[64] This description is useful in analyzing the role of affect contagion in dynamic social and political settings such as raves or protests, as it allows for analysis of the affective atmosphere of a situation without reducing the source or location of affect to individual bodies or their object-environment, but the rather intensities of feeling that ebb and flow and continuously morph the ambient tone or collective mood of a situation. Goodman discusses the affective contagion of dread and discomfort engineered by long-range acoustic devices (LRADs), "used in the aftermath of Hurricane Katrina to repel looters"[65] as well as in the more explicitly military context of the United States invasion of Iraq. On this note, affective contagion is also visible in Massumi's writings on the stateside production of affect in the War on Terror, which relies on a massively contagious spread of alarm to function as a means of justifying preemptive military action. In horror films, affective contagion "is actively pursued" in the interest of

[63] Ibid, 192.
[64] Ibid, 194
[65] Goodman, *Sonic Warfare*, 21.

producing "the sensation of chills, waves of shivers up and down the spine, goose bumps and hairs standing on end"–signals of dread "that communicate and motivate at once both publicly outward"[66] to the surrounding audience as well as backward and inward toward the interiority of the individual viewer. However, as we will examine in the chapter on sonic warfare, "the exorcism of this dread, through its preemptive production, has been a central objective of affective hackers."[67] Describing the affective tonalities, or "dimensions of mood, ambience, or atmosphere"[68] of dancehall music, Goodman develops the notion of a "bass materialism"[69] that works through physical sound vibrations to rearrange the senses simultaneously toward a confluence of the affect of dread and an immanent affection or impulse to dance, the "contagious dancing of the dancehall session."[70] Thompson and Biddle also touch on the contagious qualities of affective transmission in their discussion of the role of music in mobilizing protest crowds through the "energy and the aura"[71] of the protest event amid the blaring of particular types of music. In sum, the role of affect with regards to political, aesthetic, social and cultural dimensions of life is kaleidoscopic. Throughout the rest of this paper I will deploy affect on a number of registers, analyzing its deployment and contagion throughout a range of contexts, perspectives, materials and relations. Many of these angles are political, and it has been argued that the reemergence of affect theory in cultural studies scholarship is "a response to to new power formations emerging as part of

[66] Tomkins and Izard, *Affect, Cognition, and Personality*, vii.
[67] Goodman, *Sonic Warfare*, 73.
[68] Ibid, 195
[69] Ibid, 28
[70] Ibid, 29
[71] Thompson and Biddle, "Introduction," 5.

what Massumi … terms 'late capitalist cultures.'"[72] As such, my study of affect in this paper endows the study of affect in electronic music with a pressing political impetus.

As the above examples and explanations of affect demonstrate, affect is a force and a field of forces that holds enormous political potential to move individuals and populations to feeling and action. These feelings, actions, moods, and intensities have no teleology to them; although they are mobilized by the State in such a way that they are often felt as inevitable certainties. Such was powerfully the case in the United States' decision to invade Iraq in 2003. Based on the false premise that Saddam Hussein possessed a WMD and *would* use it in the future if he *could*, the United States invasion of Iraq worked on the political plane of preemption. It can be argued that a similar logic was employed in the invasion of Afghanistan– that although Afghanistan has faced decades of crippling political and economic precarity, if terrorists hiding within it *could* leverage another attack of the caliber of September 11th, they *would*. Brian Massumi explores these operative logics of power concretely through the plane of affect. Understanding affect as a malleable force that can be channeled by power toward a given political will, Massumi terms the particular form of power exercised by the twenty-first century United States, leveraged through the affective incitement to feelings of threat and fear, *preemptive power*. Affect is the unique domain of this sort of preemptive power, as it relies on the mass transmission of fleeting, vaporous feelings that nonetheless impact bodies profoundly; able to incite people to paralysis as well as action.

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[72] Ben Anderson, "Modulating the Excess of Affect: Morale in a State of 'Total War,'" in *The Affect Theory Reader*, ed. Melissa Gregg and Gregory J. Seigworth (Durham: Duke University Press, 2010), 164.

Section III: Preemptive Power

9/11 and the Rise of Preemption

In *Ontopower: War, Powers, and the State of Perception* (2015), Brian Massumi contends that the terrorist attacks of September 11, 2001 marked the advent in the United States of a new form of state power that would soon sweep the world. George W. Bush's near-immediate invasion of Afghanistan commenced the 21st century War on Terror, an international military mission against as-of-yet unknown, unspecified and unmaterialized terrorist threats alleged to be festering in the country. Massumi terms the decision to invade Afghanistan an act of preemption, a power to act in the present on the anticipation of potential but unspecified future threats, and applies this emergent form of power to the United States' subsequent invasion of Iraq as well. The era of preemptive power would soon expand far beyond Afghanistan and Iraq to shape urban spatial and affective landscapes across the United States and the globe, instilling securitization and militarization as regular elements of civil life. Army batallions and domestic police forces alike suddenly stood on high alert to the possibility (however slim or non-existent) of insurgent terrorist cells hiding in the nooks and crannies of their surrounding environments, and began to train with increasingly security and surveillance-oriented equipment and tactics. A concomitant securitization of public spaces ensued, featuring the expansion of panoptical (and arguably pansensory) surveillance methods and technologies, and preemptive calls to emergency situations necessitating the suspension of 'regular' civil life, and increased attentiveness to the affective architecture of spaces of power and wealth. These advents of 21st century warfare owe their proliferation,

Massumi will argue, to the self-propelling tendency of preemptive power in the aftermath of 9/11.

Preemption here does not necessarily denote the prevention[73] of threats through suspensions of human rights and civil liberties, however these may emerge among preemption's effects. Unlike preemption, which operates prior to firm grounding in confirmed knowledge, "Prevention operates in an objectively knowable world in which uncertainty is a function of a lack of information."[74] Nor is preemption equivalent to the Cold War strategy of deterrence, which necessitates a firm empirical grasp on the status, resources, capabilities and intentions of the adversary for action to be taken confidently.[75] Deterrence entails the escalation of known, identifiable threats based on empirical, military-scientific intelligence, culminating at the brink of Mutually Assured Destruction (MAD)[76]. The chess-like analysis of the Soviet Union's improbability to launch a nuclear weapon against the United States in light of its mutually ensured demise suggests that the ontological existence of the threat must be certain, verified by modern scientific epistemology.[77] In short, with prevention and deterrence, we know what we are dealing with, and preemption is another matter.

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[73] Brian Massumi, "The Primacy of Preemption: The Operative Logic of Threat," in *Ontopower: War, Powers, and the State of Perception* (Durham: Duke University Press, 2015), 5.
[74] Ibid, 5.
[75] Ibid, 6.
[76] Ibid, 7.
[77] Ibid.

Unknown Unknowns

Preemption possesses a unique ontology of threat, wherein "the nature of threat cannot be specified."[78] Unlike deterrence, which relies on 'good intelligence' to function, preemption thrives on uncertainty and a lack of knowledge of the nature and existence of threat. Massumi writes that "the lack of knowledge about the nature of the threat can never be overcome. It is part of what defines the objective conditions of the situation."[79] To repeat, this uncertainty of threat is not an error or insufficiency of preemption but its necessary ontological and epistemological conditions of operation. Being and knowledge are both necessarily uncertain and potential under preemptive power; as such, preemption "combines an *ontology* with an *epistemology* in such a way as to trace itself out as a self-propelling *tendency*."[80] (Massumi 5) Lack of knowledge and uncertainty of existence as the epistemological and ontological conditions for political action produces a state of suspended potential threat, wherein threats may or may not emerge in the future, and as such may as well be predicted to occur. If the threat *could* exist, it *would* emerge, so preemptive action must be taken.[81] Preemption is thus action taken in advance of concrete knowledge, indeed without a need for the backing of concrete knowledge or factual information. As such preemption occurs and is leveraged in the present, in anticipation of a certain future threat without certainty of the nature or existence of the future threat. The only certainty is that the aforementioned uncertainties could potentially pose threats in the future. In the study of preemptive actions taken by the State, Massumi's configuration

[78] Ibid, 9.
[79] Ibid, 9-10.
[80] Ibid, 5.
[81] Ibid, 13.

of preemption effectively places the discretion to qualify or identify an unknown, potential future threat in the hands of State and governmental authorities.

Preemption's conflation of knowing and being, or rather, of not knowing and potentially being, "makes the motor of its movement: it converts a future, virtual cause directly into a taking-actual-effect in the present."[82] The operational logic of preemptive power in the case of the 2001 invasion of Afghanistan goes like this: Afghanistan's Taliban government *could* pose or harbor any number of terrorist threats that unfortunately *cannot* be known with certainty or specificity, except for the fact that these threats *could* potentially occur in the future. Potential happenings do not need the backing of actual occurrences to qualify as potential. While the potential threat itself needs no basis in objective fact, with a global political future at stake in the face of alleged terrorist threats against the United States, there is no room for error, slowness or second guessing on the part of the preemptive actor. And so the potential future threat materializes in the present as an objective, truly felt, sense of insecurity and necessity to act preemptively. At the suggestion of an unknown, potential future threat, preemptive power jumps to act in the present, because any number of these threats *may as well* materialize in the future if preemptive action is not taken. Preemptive action *must* be taken in the present to avoid the potential threat from materializing in the future, and justification is to be assigned recursively to the threat that could have potentially materialized, whether or not it ever existed.

[82] Ibid, 15.

Massumi extends this condition to the identification, or rather the un-identifiability, of the potential enemy. Like the potential threat, "the enemy is also unspecifiable. It might come from without, or rise up unexpectedly from within."[83] While the Arab Muslim remains reliably stereotyped as the potential terrorist, Massumi writes, "you can never be sure. It might turn out to be a white Briton wearing sneakers, or a Puerto Rican from the heartland of America."[84] Preemption exceeds MAD deterrence to reach a new threshold of paranoia: the "unknown unknown"[85] coined by U.S. Secretary of Defense Donald H. Rumsfeld. You can never really know who or what may pose a threat to you; therefore anything or anyone potentially could– "In fact, since the enemy is indeterminate, it is certain that he will remain undetectable until he makes a move. You look to detect the movements, at as emergent a level as possible. But given the speed with which a terrorist attack can unfold, once the movement has detectably begun it might already be over." (12) The only certainty is that nothing is certain or knowable for certain, and as such everything should raise suspicion. Ontology as the nature of being or positive existence is unsettled, declared unstable by a paranoid, unverifiable way of knowing like a state of emergency is declared upon the discovery of a mysterious white powder in a train station. It's really just powdered sugar, but power's preemption of a future terrorist threat declares that it *could* be anthrax, so we must treat it as if it is. As this example shows, the domain of preemptive distrust, of watchfulness for potential terrorist threats, human or inhuman, extends to ubiquity. This expansion of preemptive paranoia and securitization to the chance happenings of everyday life informs Massumi's claim that "the global situation is

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[83] Ibid, 9.
[84] Ibid.
[85] Donald H. Rumsfeld, "Department of Defense New Briefing - Secretary Rumsfeld and General Myers," U.S. Department of Defense Archive, February 12, 2002, https://archive.ph/8k6bU.

not so much threatening as threat *generating*."[86] The only certainty is threat; and threats under preemptive power require constant reproduction to remain dynamically uncertain. As such, the operative logic of "preemptive security is predicated on a production of insecurity to which it itself contributes."[87] Preemptive power's self-propelling tendency toward securitization depends on the constant production or renewal of threat or insecurity, and vice-versa: its tendency toward self-renewing threat begets the constant production of securitization measures. An increasingly securitized world pays increasingly discerning surveillance to anything and everything that *could* pose a threat– even a powdered donut mishap. The mutual production of security and insecurity is the propeller that drives the proliferation of preemptive security from Afghanistan to American soil.

The Affective Fact of Fear

Crucial to Massumi's work is the argument that preemptive power exercises its self-propelling tendency to generate threat "affectively."[88] (15) Further in *Ontopower*, in "The Future Birth of the Affective Fact", Brian Massumi analyzes the state's preemption of future threats as a mechanism of militarization and securitization as leveraged politically through the domain of affect. Examining the United States' 2003 invasion of Iraq on claims that Saddam Hussein possessed Weapons of Mass Destruction (WMDs) and thus posed a real and present danger to American national security, Massumi analyzes the production of the "affective fact"[89] of fear in the American populace. The

[86] Brian Massumi, "The Primacy of Preemption," 10.
[87] Massumi 58
[88] Brian Massumi, "The Primacy of Preemption:," 15.
[89] Massumi, "The Future Birth of the Affective Fact," 54.

"affective fact" of fear refers to the truly felt, "anticipatory reality in the present of a threatening future,"[90] regardless of the actual existence or likelihood of that threatening future. As a threatening specter constructed, imagined and felt in the absence of threat itself, the affective fact of fear is 'born in the future' insofar as the threatening event it is associated with has not yet occurred, but is anticipated to possibly occur in the future. As the real future showed, Saddam Hussein never actually possessed WMDs. However, the intensity of presently-felt fear in 2003 America speaks tellingly of the political potential of affect in the mobilization of popular consent to the preemptive military invasion of another country halfway around the world. The impacts of the affective fact of fear can be understood even more chillingly in light of the massive scale of anti-human violence and arrest of social reproduction in Iraq as a direct result of the United State's invasion and militarization of the country.[91] Anxiously, the affective fact of fear demands a number of suspensions; of security, of fidelity to 'observed' facts, and of reservations to preemptive infringements on human, civil and Constitutional rights for the preservation of the state. Security is destabilized much like certainty with regards to the nature and existence of threat. To repeat Massumi, the logic of "preemptive security is predicated on a production of insecurity to which it itself contributes."[92] This is an affected insecurity, a becoming-unsafe that finds its calcified emotional expression as the truly felt fear of Americans watching the nightly news. Again avoiding a firm dichotomy of affect and emotion in this case, I insist that this process is a gray area, wherein affect is not strictly *before*, and emotion is not strictly *after*– rather, affect is gradual the becoming of

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[90] Ibid, 54
[91] Yasmin Chilmeran and Nicola Pratt, "The Geopolitics of Social Reproduction and Depletion: The Case of Iraq and Palestine," *Social Politics: International Studies in Gender, State and Society* 26, no. 4 (2019): 586–607.
[92] Massumi, "The Future Birth of the Affective Fact," 58.

emotion, and the affective fact of fear is the gradual becoming of its comprehension and reflection on different registers and at different intensities of feeling.

Anxious and Alarmed

The affective alarm of a forecasted future threat, for example the dreadful media image of a madman in possession of WMDs and a hatred for America to boot, is at once "nervously compelling" and "immediately performative."[93] Recalling Judith Butler's articulation that social realities are constructed through performances of "language, gesture, and all manner of symbolic social sign,"[94] the performative clause of Massumi's claim implicates the symbolic social sign, such as the language of public discourse, as a key element in the production of the affect of fear. This performative indication to fear in relation to preemptive power recalls Baudrillard's definition of hyperreality in *Simulacra and Simulation* (1994) as "the generation by models of a real without origin or reality."[95] Years earlier, in *The Gulf War Did Not Take Place* (1991), Baudrillard wrote of "the anticipation of the real by the virtual, of the event by virtual time,"[96] echoing from the past the future invasion of Iraq on grounds of a threat that did not exist in real time, but in the virtual temporality of preemption, validated by the affective fact of fear. In *Covering Islam* (1981), Edward Said examines the fearful political affects incited Americans on the level of discourse, or the performative social sign. Said analyzes a Consolidated Edison of New York advertisement broadcast on American national television in the summer of

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[93] Ibid, 64.
[94] Judith Butler, "Performative Acts and Gender Constitution: An Essay in Phenomenology and Feminist Theory," *Theatre Journal* 40, no. 4 (1988): 519.
[95] Jean Baudrillard, *Simulacra and Simulation*, trans. Sheila Faria Glaser (Ann Arbor: The University of Michigan Press, 1994), 1.
[96] Jean Baudrillard, *The Gulf War Did Not Take Place*, trans. Paul Patton (Bloomington: Indiana University Press, 1991), 67.

1980 to demonstrate this point. The advertisement consisted of "film clips of various … people associated with oil and Islam: Khomeini, Arafat, Hafez al-Assad," accompanied by a message that "'these men' control America's sources of oil…." Living directly in the political climate of the time, Said notes that "it was enough for 'these men' to appear … for American viewers to feel a combination of anger, resentment, and fear."[97] Like Massumi, Said traces the discursively induced affect of this advertisement to preemption of potential future threats: "what the consumer of news and of oil sensed, in short, was an unprecedented potential for loss and disruption."[98] In later chapters of *Covering Islam*, Said traces this sort of affective incitement to a breadth of Orientalist and post-Orientalist discourses that have dominated western perceptions of the Middle East beyond the colonial era.

In our earlier example of the overdetermined discursive construction of the madman, his weapons and his desires, however, fear cannot be contained to the realm of discourse alone. Fear also operates through what Massumi terms "the innervated flesh"[99] of the physiological, autonomically perceiving, feeling and reacting human body. Operating distinctly on the interstitial plane of affect, fear crosses an indeterminable boundary somewhere between the signifying message and the corporeal reaction "at a threshold … where there is as yet no distinction between activity and passivity … the body cannot distinguish its own 'instincts' from the reawakening force conveyed by the sign's formative performance." (65) As the key precursor to the affective incitement to

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[97] Edward W. Said, *Covering Islam: How Media and the Experts Determine How We See the Rest of the World* (New York: Pantheon Books, 1981), 3.
[98] Ibid, 36.
[99] Massumi, "The Future Birth of the Affective Fact," 64.

preemptive action triggered by allegations of Saddam Hussein's possession of WMDs, Massumi marks 9/11 as such "a turning point at which the threat-environment took on an ambient thickness … which gave the preemptive power mechanisms dedicated to its modulation an advantage." (62) This "ambient thickness" of fear, the affective environment of impending threat, took hold of bodies not through semiotic indications to alarm alone, but through a range of mediating materials that can act and be acted upon by affective bodies. This "*environmental* power"[100] of affect to envelop and modulate collective moods and atmospheres certainly extends beyond the textual, discursive political otherings of 'us versus them' as explored in *Covering Islam* (1981?), to the modulation of affect through mediating materials, substances, spaces and vibrations both human and inhuman. These materials of affective mediation range in substance from audiovisual news reports as examined by Said above, to architectural structures as examined below by Davis, Adey and Ahmed, to sound vibrations which will be examined in further detail later in this chapter.

Preemptive Paranoia and Securitization

Working affectively through the material world we are situated in, the context which we cannot exist without, the amalgamated ontology and epistemology of indeterminable threat structures not only the operative logic of America's invasions of Afghanistan and Iraq, but also the operative logic of internal, architectural securitization in airports, government buildings, memorials and other public spaces. The "ambient thickness"[101] of threat in post-9/11 society recalls Mike Davis' premonition in *The Ecology of Fear*

[100] Ibid, 62.
[101] Ibid, 64.

(1999) of the "continuing erosion of the boundary between architecture and law enforcement"[102] as a preemptive reaction to urban unrest and other civil challenges to the neoliberal allegiance of state power and capital. The increasing ubiquity of anti-homeless architecture, panoptical video surveillance, sonic crowd control, and the financial and cartographical tracking of human activity in urban capitalist environments all contribute to this ambient ecology of fear in human-occupied spaces. They also all act in the realm of preemptive power; tracking, surveillance, and hostility in the present to abet the occurrence of potential future disturbances to power.

Peter Adey expounds upon these developments in his analysis of the affective dimensions of post-9/11 airports, which, while widely understood to "act as the contact point between people and the state," have also faced sociological dismissal "as rather blank spaces and devoid of excitement and interest … considered abstract, boring, placeless – perhaps non-places."[103] Echoing Massumi's contention that preemptive power is bound with the affective manipulation of bodies, Adey extends the claim that the "feelings, motions and emotions" experienced in airports "are predicated by a form of airport control; bodies, both physically and emotionally, are opened up to power."[104] Adey continues to argue that the affective tendency airport spaces "[embodies] the calculative and probabilistic virtualities often associated with risk management practices…"[105] again echoing Massumi's definition and exploration of securitization as an effect of preemptive power. Reflecting a concern of the state with not only the vague preemption but statistic

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[102] Mike Davis, *The Ecology of Fear* (New York: Vintage 1999), 364.
[103] Peter Adey, "Airports, Mobility and the Calculative Architecture of Affective Control," *Geoforum* 39, no. 1 (January 1, 2008): 438–39.
[104] Ibid, 439.
[105] Ibid.

probabilization of threat, Adey and Massumi together discuss an anxious tendency that permeates the pores of the airport's architecture, securitization methods management, and affective tone or ambience.

Elaborating on the specific affective design of the airport security line in particular, Mark B. Salter[106] illuminates the fact that affect also works to influence the actions of the state itself in activating its anxiety of insecurity. Conditioned by an ambient atmosphere of potential threat, "the sovereign's power to admit or exclude is manifest in the necessary anxiety of confession to produce the national subject."[107] In this case, the affective fact of fear is transmitted through the suspicion of security guards to the anxiety and confession of innocence in passengers. The co-production of security and insecurity is well exemplified by the anxiety of the confession felt by travelers and security agents alike. Salter traces this pathology in its subconscious, affective, equally nervous and performative dimensions: "We do not worry 'will the state exclude me because it can?' But rather we think: 'have I told the whole truth? Is my story believable?' With 'Please step over here' we panic. At the utterance of 'Welcome' or 'Welcome home' we sigh in relief to have passed the sovereign test."[108] Thinking through these internal monologues as affective responses and indications, Adey implores us to "understand affect as not just a random process, it is precisely in designing and building spaces and environments that organisations like airports attempt to predetermine the situational context one inhabits. It is through these techniques that they hope to shape and bend people's motions, feelings

[106] Mark B. Salter, "Governmentalities of an Airport: Heterotopia and Confession," *International Political Sociology* 1, no. 1 (March 1, 2007): 49–66.
[107] Ibid, 59.
[108] Ibid.

and emotions."[109] Rather than a monologue, then, the anxiety, guilt and inclination to confession felt in innocent passengers as a result of the airport's design functions as an affective dialogue between the traveler and the airport's affective atmosphere of preemption, its constant anticipation of future threat. The airport as a site of affective preemptive power extends beyond the momentary pass through the official security line alone: cameras, air marshalls, and substance detectors of all sorts working to preemptively secure the premises regardless of the existence or likelihood of threats. The ambience of preemptive security feeds into and off of the ambience of fear, straddling a fulcrum of unknowns and uncertainties to justify the preemptive power of securitization.

Militarization and the Preemptive Ontology of 'Drone Zones'

Returning to the preemptively induced warzones of Afghanistan and Iraq, the endeavor to predetermine indeterminate threats is virtually unlimited in the militarized substantiations of preemptive power. Applying Massumi's principles of preemptive power to the advent of drone warfare in the permanent War on Terror, Sabeen Ahmed writes that "affect—in the form of fear—here plays a double function: it both anticipates future threats and produces the very threat that triggers this fearful anticipation."[110] The former function of anticipation is found moreso in the aforementioned realm of securitization: the pervading anxiety of innocent and unassuming travelers and security agents alike in the airport is symptomatic of this ambient thickness of fear. The production of threats that trigger fearful anticipation is another matter whose work extends to the sites of potential future threats themselves: Afghanistan and Iraq. Reporting for *The Guardian* on the United

[109] Adey, "Airports, Mobility and the Calculative Architecture of Affective Control," 447.
[110] Sabeen Ahmed, "From Threat to Walking Corpse: Spatial Disruption and the Phenomenology of 'Living under Drones,'" *Theory & Event* 21, no. 2 (2018): 383.

States Military's designation of "all males of military age in these regions as [potential] combatants," Medea Benjamin uncovers the preemptive demographic category of the potential terrorist who, by virtue of gender and age, and in line with the suspicious operative logic of preemptive power, are rendered "fair game for remote controlled killing."[111] The fact that any military age male may be killed within a particular region, namely sites already targeted by American military intervention, reveals that the preemptive scope of drone warfare "is tied not to bodies, but to spaces of threat which in turn are militarily and phenomenologically transformed into *spaces of death*."[112] This articulation of the ontology of 'drone zones' as "*spaces of death*" returns us again to Massumi's insistence on ambience, atmosphere, and "environmental power"[113] of the affect of fear as it operates with preemptive power. The affective control mechanism of fear is not felt by westerners alone in this case, but by Afghan, Pakistani and Iraqi civilians on the ground. The affective manipulation at play is magnitudes greater than that affecting western television audiences. Simply living in a targeted area entails a daily possibility of being killed as collateral damage from a drone strike targeting one's next-door neighbor, echoing Ahmed's insistence that "inhabitants of 'drone zones' are victim to profound spatial disruption."[114] (Ahmed 402) Ahmed continues to write that "beyond even the perpetual fear of becoming a target (or 'collateral' victim)" the "ambient thickness"[115] of fear exported by preemptive power to the regions of preemptive

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[111] Medea Benjamin, "America Dropped 26,171 Bombs in 2016. What a Bloody End to Obama's Reign," *The Guardian*, January 9, 2017, sec. Opinion, https://www.theguardian.com/commentisfree/2017/jan/09/america-dropped-26171-bombs-2016-obama-legacy.
[112] Ahmed, "From Threat to Walking Corpse," 383.
[113] Brian Massumi, "National Enterprise Emergency: Steps toward an Ecology of Powers," in *Ontopower: War, Powers, and the State of Perception* (Durham: Duke University Press, 2015), 40.
[114] Ahmed, "From Threat to Walking Corpse," 402.
[115] Massumi, "The Future Birth of the Affective Fact," 62.

action forces inhabitants to "disconnect from external objects—and, especially, other subjects."[116] Inhabitants are subject to intense affective alienation from the constant hovering doom of overhead drones, as well as their surrounding families, friends, and built environments who are also held potentially at the brink of destruction. This sense of impending doom, an "ambient thickness"[117] of, this time, a very real threat, fulfills the latter function of preemptive power: it "produces the very threat that triggers … fearful anticipation."[118] Preemptive power can thus be considered as a two-sided coin: securitization at home, and militarization abroad. However these categories are neither hermetic nor mutually exclusive. Military technologies emerge increasingly in domestic police outfits in the United States. And on the other hand, large-scale securitization projects such as the state of Israel introduce the affective strangulation of airports into every checkpoint and facet of Palestinian daily life.

The Power of Potential Futures

Affect and preemptive power share in their relationships and orientations toward the future. The future orientation and constant becoming and fluctuation of affects inflect the strategies, tactics and avenues taken by preemptive power. Brian Massumi exemplifies how the United States' specific deployment of preemptive power to mobilize affective feelings and relationships among the American populace, toward consent for the invasion of Iraq on the basis of a future threat that would never materialize. The invasion of Iraq and the State political discourse that surrounded it thus traded on the certainty of a particular future occuring–Saddam Hussein launching a WMD against the United States

[116] Ahmed, "From Threat to Walking Corpse," 402.
[117] Massumi, "The Future Birth of the Affective Fact," 62.
[118] Ahmed, "From Threat to Walking Corpse," 383.

or its allies. Based on this futurology, the State was able to affect such feelings of fear and insecurity among itself and the American populace that the invasion of Iraq felt like a no-brainer at the time. And yet its consequences have been grave and catastrophic, and its effects continue to ripple throughout the Southwest Asia and North Africa region and the globalized world. These effects include the militarization and securitization of life by the State; these themselves are preemptive measures akin to the invasion of Iraq that have been naturalized and metastasized into the functioning of the modern nation-State, particularly western liberal democracies that pride themselves on their utmost valorization of life and freedom. To better understand the contradictions of preemptive power– its production of insecurity toward the generation of retroactive securitization– a worthy investigation is that of sound and its relationships among the State and civilians. Among the most future-oriented, spatial and anticipatory of the human senses, sound also acts as a fundamental sense of preemptive power and the warfare it stands to engender. Sound and hearing form affective and anticipatory relationships to future phenomena that cannot be presently seen, but can be heard out of sight or in the distance in advance of their visual appearance. The affective and anticipatory relations that arise from the sonic are constantly implicated in political anticipations and affective orientations toward the future. Amid the predatory futurologies of western neoliberal technocapitalism, the deployment of sonic weaponry such as the LRAD construct imminent futures of State violence; meanwhile, the policing and regulation of sound in public spaces intimates toward a political future of literal silence, political quietism and the repression of public conviviality. As such, it is worthy of the subjects of affect and preemptive power alike to investigate sound and its relationship to warfare in a broad scope, treating warfare as a

nexus of mutually consequential and imbricated fields of affect transmission and preemptive power.

Section IV: Sonic Warfare

Sound Is A Battleground: Stakes and Materials

Throughout *Sonic Warfare*, Steve Goodman illustrates how the State develops and deploys sonic technologies to produce affective relationships to the future. At the same time, Goodman contends that a globalized network of cultural workers employ the same tools to enter asymmetrical combat with the State's affective forces, toward oppositional or even anarchic political futures, through the production of sound and music as interventions into State-sanctioned futures. These conflicts cannot be answered simply, but their complexity demands analysis of the stakes of these questions. Brian Massumi's elaborations on preemptive power inform us that a future imaginary is always at stake in the study of affect, particularly in political scenarios. Fear in particular, of impending potential threats, is a key mechanism of affective control according to Massumi; "We can never be done with it. Even if a clear and present danger materializes in the present, it is still not over."[119] Goodman builds on this foundation to surface the affective dimensions of sound technologies and designs in regimes of State militarization and control, as well as subcultural resistance to trends of militarization and securitization that permeate increasingly intimate pores of civil, political, cultural and aesthetic life. In sum, sonic warfare concerns "how audition is policed and mobilized."[120] In either direction of affective modulation through sound, toward State militarization and securitization of sound via Mike Davis' ecology of fear, or toward the vortical prolepsis of electronic music and Afrofuturist cultural production, Goodman develops an ontology of vibrational

[119] Massumi, "The Future Birth of the Affective Fact," 53.
[120] Steve Goodman, *Sonic Warfare*, 189.

force through which to examine the material and affective elements of sound. In this effort, Goodman employs a pansensory, synesthetic approach to the affective tonalities and potentials of sound, insisting that sound affectively mobilizes individuals as well as collectives through the autonomic nervous system as well as the symbolic anticipation of and intervention into predicted futures. The physical and philosophical properties of frequency, amplitude and rhythm will help color this ontology of vibrational force as a strategic and tactical medium of sonic tools, methods and maneuvers. Throughout this journey, Deleuze and Guattari's writings on the nomadic war machine will provide a framework for our understanding of the asymmetry of sonic warfare, between the royal, centralized, scientific warfare of the State and the minor, anarchic and rhizomatic war machinery of nomadic cultural workers. Working from this framework of warfare, this chapter will navigate the different affective and futurological approaches to sound and music of the State and civilian cultural workers alike. Sonic warfare concerns the tensions and conflicts between these affective sonic forces.

Political imaginations of the future, potential but as-of-yet virtual realities of what the future may bring, are at stake in the tensions between the competing affective sonic forces of securitization and civil cultural production. Goodman dubs the struggle between these forces *sonic warfare*, "the deployment of sound systems in the modulation of affect, from sensations to moods to movement behaviors."[121] Sound systems here are defined not as technological apparatuses such as loudspeakers alone, but as "bodies, technologies, and acoustic vibrations, all in rhythmic sympathy."[122] These materials are not distinct

[121] Ibid, 198.
[122] Ibid, 5.

entities but imbricated and mutually affecting elements in the world. Such assemblages of sounds, bodies and technologies thus engage "in a war of mood, sensation, and information"[123] on a distinctly affective plane, in constant interplay and mutual imbrication with the material world as well as one another. Goodman's interest in the affective properties of sound necessitates an approach to music and sound that goes beyond textual analysis alone. He is aware of this when he notes that "affect comes not as either a supplement or a replacement … of representation, but rather as an approach that inserts itself ontologically prior."[124] As such, sonic warfare is defined to include the material dimensions of sound that are instrumental to its affective potentials, as "the use of force, *both seductive and violent, abstract and physical*, via a range of acoustic machineries (biotechnical, social, cultural, artistic, conceptual), to modulate the physical, affective, and libidinal dynamics of populations, of bodies, of crowds."[125] Force, in this context, can be understood as both affective forces, or intensities of feeling, as well as physical forces, in particular acoustic vibrations. The two dimensions are folded onto one another, working together through sound as a means of "affective mobilization and contagion."[126] The contagion of affects operates through the deployment of sound takes on an immediate political dimension in its potential to mobilize (or terrorize, or rejuvenate, or demoralize, or simply arrest) bodies. The immanent neutrality of affect, its ability to be molded and modulated toward futurity without and even in spite of the telos or predetermined pathologies of ideology or emotion, qualifies the 'warfare' of sonic warfare. Sound is a battleground, and sonic warfare extends as far as the ear can hear. Far

[123] Ibid.
[124] Ibid, 10.
[125] Ibid.
[126] Ibid, 11.

from contained to the bloody imbrication of human bodies and war machinery on the traditional battlefield, "war is also an undercurrent, with its militarized instantiation only a captured subset."[127] Psy-ops, crowd control, diversion, deterrence, and torture tactics–be they practiced by standing armies or local police departments– all fall under a mushroom cloud of affective manipulation through sound, hacking faculties of sleep, thought, breath, emotion and spatial-temporal orientation. These tactics work through distinctly material dimensions, from sinc vibrations, through steel, to flesh, as militarized modulators and synthesizers of affect.

Sonic warfare springs from the premise that affect can be cultivated, transmitted, and transduced materially through sound and bodies. In addition to the aforementioned militarizations of sound, there also exists a nonmilitarized sonic warfare that grasps the modulation of collective affect through sound, "activating a power of allure, or provocation"[128] that works counter to the militarized sonic warfare of the State. Elaborating on the material ammunition of sonic warfare's affective modulations, Goodman emphasizes sound "in its sensory relation, in its intermodality, as rhythmic vibration,"[129] locating rhythm and physical acoustic vibrations as a key site of affective transmission. Importantly, acoustic vibration as the material dimension of sonic warfare exists and occurs prior to audition by the human ear and the affective transmissions that do take hold through conscious audition. Regardless, the affective transmission grounds of sonic warfare can exceed audition alone; "deeper than the merely auditory, the vibratory materialism here focuses, before human hearing, on the primacy of the

[127] Ibid, 33.
[128] Ibid, 29.
[129] Ibid, 9.

synesthetic … that which exceeds unisensory perception, that which impresses on but is exterior to the sonic."[130] The synesthetic, intermodal qualities of sound affect bodies beyond audition alone, stretching to infrasonic and ultrasonic extremes. The transmission, modulation, circulation and becoming of "moods, feelings and intensities"[131] within and between bodies works through "pansensory"[132] modes of perception. To exemplify, Goodman notes that bass vibration "most explicitly exceeds mere audition and activates the sonic conjunction with amodal perception: bass is not just heard but is felt."[133] Bass taps into the resonant frequencies of human bodies, shaking, vibrating and affecting us to our cores through technologically amplified acoustic vibrations. Identifying a lack of transdisciplinary theories of bass, Goodman dismisses critics who paint bass as a muddled or inferior sound to emphasize in the mix, nonconductive of clear movement or thought. He notes that "for many artists, musicians, dancers, and listeners, vibratory immersion provides the most conducive environment for movements of the body and movements of thought."[134] As I will explore, amplification of and immersion in the deep vibrations of bass frequencies is a potent affective tool.

An Ontology of Vibrational Force

Through *Sonic Warfare*, Steve Goodman outlines an ontology of vibrational force through which we can understand that acoustic vibrations act upon bodies affectively, transmitting from the physical material of acoustic vibration to the physical materialiality of human bodies. Goodman's ontology of vibrational force draws on Alfred North

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[130] Ibid.
[131] Thompson and Biddle, "Introduction," 5.
[132] Goodman, *Sonic Warfare*, 64.
[133] Ibid, 79.
[134] Ibid, 79.

Whitehead's approach toward a "nonanthropocentric concept of feeling"[135] that helps us understand acoustic vibrations as affective materials. This formulation extends beyond both the abstract semiotic cognition and physical sense perception of the human mind and body alone, objecting to "the linguistic imperialism that subordinates the sonic to semiotic registers," as well as the "naive physicalism in which all vibrational affect can be reduced scientifically"[136] to sociolinguistically substanceless matter. For the latter, Goodman contends that "a quantifiable objectivity is inadequate in that it neglects incorporeal affects"[137] of human experience as well as other affective relations that resist the static quantification of existence. In this effort Goodman draws on Whitehead's affinity for quantum physics, writing that "things that appear static are always composed at the molecular level by vibrating, that is, microrhythmically mobile particles."[138] Microrhythmic vibration suggests that matter is not as static as it seems, and that affective relations can in turn take place at the microscopic level of particles, as well as the macroscopic level of organisms and populations. The nonanthropocentric aspects of this ontology significant insofar as Goodman qualifies human perception as a limitation on our understanding of the affective potentials of vibration, and by extension, sound. Goodman contends that "if we subtract human perception, everything moves … At the molecular or quantum level, everything is in motion, is vibrating."[139] According to Goodman's vibrational ontology, affective feelings are thus present in all objects and materials in the imperceptible vibrational forces undergirding all physical existence: "all entities are potential media that can feel or whose vibrations can be felt by other

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[135] Ibid, 94.
[136] Ibid, 82.
[137] Ibid.
[138] Ibid, 96.
[139] Ibid, 83.

entities."[140]As such, Goodman argues that the acoustic transmission of affect exists prior to and exterior to conscious audition and cognition, yet impinges constantly on these realms in real time, inflecting the direction and intensity of affect's sedimentation into thought and emotion. This is a principle we will soon apply to acoustic vibrations, extending sonic warfare beyond either an affective analysis of sound and music as semiotic, sociolinguistic codes, or as purely physical phenomena of sense perception alone. In effect, Goodman's vibrational ontology attempts to transcend Descartes' mind-body dualism, in which abstract cognition and bodily sense perception are posited as two ontologically separate and distinct substances; a body could exist without a mind and a mind could exist without a body.

Ways of Listening

It is worth noting a critique of Goodman's vibrational ontology that challenges its aspirations of avoiding Cartesian dualism altogether. Tracing Goodman's ontology of vibrational force to its roots in Massumi's pre-cognitive understanding of affect, Brian Kane suggests that Goodman's bifurcation of affect and emotion, inversely of cognition and precognition wherein affect takes hold amid the precognitive space, beckons precisely the dualist barrier between objective sound and subjective perception that Goodman claims to elude. Kane charges that Goodman's vibrational ontology of force, which intimates toward a Spinozan monist approach to all substance being one and the same, "is betrayed by his rigid temporal and theoretical separation of affective from cognitive realms."[141] This charge brings into question the degree to which, if at all, we

[140] Ibid.
[141] Brian Kane, "Sound Studies without Auditory Culture: A Critique of the Ontological Turn," *Sound Studies* 1, no. 1 (January 1, 2015): 8.

can or should distinguish preconscious affect from conscious emotion. Imagining an alternate ending to Franz Kafka's 1931 short story, "The Burrow," Kane throws a wrench into the machinery of Goodman's ontology by positing a situation where a subject hears a sound without being able to see or know its source, and upon finding the source of the sound, her affective relationship to it changes altogether. In this situation, Kane asks, "if affect is ontological, operating at an imperceptible level beneath the subject's representation, how can a change in knowledge produce a change in affect?"[142] If physical vibrations exist ontologically prior to human knowledge and perception, and sound affects the body through this ontological configuration, then an uncertainty arises as to how Goodman's ontology accommodates discernible shifts in affect that take place once a note has been struck.

Kane continues his critique through Jonathan Sterne's notion of an *audile technique*, or audition as a technique of the body that "is trained and cultivated into the performance of actions. These actions become tools for investigating, knowing, and interacting with the surrounding world."[143] This charge, that Goodman's analysis does not adequately consider specific listening techniques and auditory cultures as subjective filters on the ontology of vibrational force, gels with cognitive scientific approach to sound studies research in the work of Linda-Ruth Salter[144] and Ian Findlay-Walsh[145]. Salter writes that the continual audition and imagination of sounds are among the key cognitive activity of

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[142] Ibid, 7.
[143] Ibid, 8.
[144] Linda-Ruth Salter, "What You Hear Is Where You Are," in *The Oxford Handbook of Sound and Imagination*, vol. 1 (Oxford: Oxford University Press, 2019), 765–88.
[145] Iain Findlay-Walsh, "Virtual Auditory Reality: Inhabiting Digital Pop Music as Simulated Space," *SoundEffects - An Interdisciplinary Journal of Sound and Sound Experience* 10, no. 1 (2021): 71–90.

the brain, "that cognitive activity which constructs our realities"[146] constantly amid the ever-flowing stream of new sensory inputs and data. Even as the physical sources and linguistic significations of sounds are processed through audition, Salter argues that audition works not in an intangible liminal space between the observed sound and the sound observer, but that the two comprise "a tightly coupled unit."[147] In this formulation, audition itself is an affective link to the external world that "communicates information such as the existence, nature, and location of events and objects relative to ourselves and the content and quality of our physical surroundings."[148] Sound vibrations constitute affective media between bodies in the world. We learn from this communication between the body and the external world, affecting our cognition constantly in real time rather than in an intangible in-between. Simultaneously, the sounds we make and project also exist in mutual imbrication with the world; able to affect and be affected by bodies including ourselves, other humans, physical materials, institutions and bodies of knowledge.

While I believe Kane's charges do not fully undermine Goodman's vibrational ontology in which acoustic vibrations work through bodies, inducing and modulating affective tonalities along the way, his critique demands a reconfiguration of the assumed relationship between sounding and hearing bodies, and between affect and cognition. The modulation of affect as posited through the ontology of vibrational force downplays the affective potentials of differences in sense perception and audile between bodies. Two people who developed differing musical or sonic tastes over the years will not hear or feel

[146] Salter, "What You Hear Is Where You Are." 766.
[147] Ibid, 766.
[148] Ibid.

or be affected by the same sound or music in exactly the exact same way. Similarly, two people can hear a police siren and feel fear or alarm, but for completely different reasons grounded in differences in audile technique. Whether a police siren has been learned to signify rescue from an imminent threat, or signify imminent danger in itself depends on lived experience and audile technique. These differences persist beyond the physiological sensibility to alarm that takes hold for both parties upon hearing the frequencies that constitute the siren's wail. The same goes for tastes in music. This does not mean that the two cannot develop audile techniques to appreciate one another's relationships to different sounds. Quite the opposite, audile techniques are how sounds, scenes, cultures and genres solidify and emerge as collective spaces and experiences that are heard by many while belonging to no one. This is to say that acoustic vibration itself does not ontologically override audile techniques or physiological sensibilities to sound entirely in the sonic procession of affects.

Salter illustrates that certain sonic properties of and physiological sensibilities to sound can substitute the role of clear or conscious comprehension in the sonic transmission of affect. She argues that "in understanding language, we first process the meaning of the sound itself, using paralinguistic cues that include volume, pitch, and intonation. Understanding the word content comes later and, if the sound is sufficiently evocative, can be almost irrelevant."[149] Talking sweetly to a baby, even though the baby cannot yet understand you linguistically, works to soothe the child not because the baby gets the message of the words you're saying, but because the acoustic properties of the sounds themselves are soothing on a physiological, paralinguistic register. This meaning-making

[149] Ibid, 771.

is adjacent to a cognitive understanding of love and safety but not identical to the communication of these ideas through language itself. The properties of "volume, pitch, and intonation"[150] in this instance recall those of "moods, feelings, and intensities"[151] in the study of sonic affect, also mirroring Goodman's investigations into the affective properties of volume, pitch, and intonation throughout *Sonic Warfare*. While listening histories and auditory cultures and techniques can be seen to play a significant role in the affective transduction of sound, we can also find similarities between Salter's and Goodman's approaches to sound as a material that still affects the body prior to full conscious cognition, while also affecting conscious cognition itself.

Salter writes that in hearing certain sounds, "our imagined models of reality travel through time, going back to our childhoods and going forward to our futures. We travel through space to other places we have existed in or think we remember existing in, and forward to places we might exist in."[152] In this approach, sound holds profound affective potential on the imagination of past and future realities. Imagination, as an affective interface between bodies and spaces past, present, and future, works with and through sound in real time as "a tightly coupled unit"[153] rather than a hierarchized chronological order of first, vibrational affect and second, cognitive registration and conscious emotion. For example, the use of sonic torture, in addition to physically harming subjects, also affects on the level of imagination through the use of situationally and culturally specific sounds deployed to disturb subjects physically, affectively and imaginatively, compelling

[150] Ibid.
[151] Thompson and Biddle, "Introduction," 5.
[152] Salter, "What You Hear Is Where You Are." 778.
[153] Ibid, 766.

them to vulnerability and confession.[154] In sum, while I do not believe Kane's charges undermine Goodman's ontology of vibrational force entirely, the auditory cultures of sound producers and listeners alike, as well as the imaginative dimensions of the initial affective encounter with sound, are worth bearing in mind as I continue to explore the affective properties of sound and the sonic transmission of affect through Goodman's ontological lens. Auditory cultures may comprise the sensoria of personal predilections for certain frequencies, rhythms, timbres, genres, styles, or listening conditions and environments. Meanwhile, imaginative and affective encounters with sound denote the intense interpersonal experiences of sound and music that are guided and modulated by subjective and environmental factors alike. To illustrate, an electronic music audiophile listening to dubstep on headphones during a bus commute will not process the music's sonic vibrations the same as a disgruntled country music fanatic who found themselves in the wrong club blasting the very same dubstep track. The former may find the track as a space and time for meditation, reflection or appreciation; whereas the latter might feel an innate impulse to vacate the club immediately. While auditory cultures and listening environments are not always so hermetic and mutually exclusive in reality, they evidence the fact that the physical properties of acoustic vibrations alone are not enough to determine a listener's affective relationship to a given music. Proofread via Kane and Salter, Goodman's ontology of vibrational force still expands our affective analysis of sound beyond semiotic theories of sound-as-language or the empiricist desire for sound as a totally quantifiable object. In any case, an abstract ontology alone does not provide a concrete enough unit of analysis for affective phenomena of sonic warfare, such as the circulation of moods, feelings and intensities among individual and collective bodies.

[154] Goodman, *Sonic Warfare*, 20.

Freq Out

Between Goodman's vibrational ontology and its critiques that develop an attention to audile technique and auditory cultures as a part of the affective work of sound, the sonic dimensions of vibrational frequency and rhythm emerge as two registers by which affect is channeled through the ontology of vibrational force. Throughout *Sonic Warfare*, Goodman writes of a "subpolitics of frequency,"[155] a micropolitics of sonic frequencies across the spectrum of audibility and inaudibility that spans their potentials and deployments toward affective modulations. This politics concerns the militarization, securitization, weaponization and mobilization of frequencies, oscillating between the corporeal effects of sound on the human body and sound's sociolinguistic, pop cultural deployment. On the end of corporeal effects, Goodman holds a microscope to the outer vibratory fields of audible frequencies, the "thresholds of perceptible sound (above 20 hertz and below 20 kilohertz), where sonic perception becomes intermodal … infrasonic and ultrasonic wave phenomenon."[156] Ultrasonic frequencies lie at 20 kilohertz and above; its "unsound," or affective "nexus of not-yet-audible frequencies" is imperceptible to the human ear yet impactful on the human body and nervous system. The unsound of inaudible ultrasound is "neuro-affective," impacting the body neurologically, contributing at high frequencies to "Hypersonic modulation of audible frequencies … Cavitation and heating of the body … Neural entrainment … [and] Tissue damage if prolonged exposure."[157] Infrasound, on the other end of the frequency spectrum, lies at 20 hertz and below. The unsound of infrasound is tactile, referring to the physically tangible vibration of matter incurred by low frequencies. In its deep inaudible frequencies, infrasound can

[155] Ibid, 198.
[156] Ibid, 9.
[157] Ibid.

affect "Neural entrainment … Organ resonance effects … Nausea … Concussion … [and] Respiration inhibition."[158] Between infrasound and ultrasound lies the range of audible frequencies. In this range, high- and low- pitched frequencies are audible and can still approach the thresholds of infrasound and ultrasound. Between these frequencies, sonic warfare takes on its more vernacular approaches through music and audible sound. Across the board of audible and inaudible frequencies, hearing damage occurs at prolonged exposure to about 120 decibels and above.[159]

On the high end of ultrasound, sound is inaudible and takes effect as a modulator of audition as well as cognition. Ultrasound is of a distinct biological significance in that younger age groups of humans are more susceptible to certain ultrasonic frequencies than older people, whose bodies have lost the capacity to hear at such frequencies. For example, the Mosquito Anti-Social Device (M.A.D.), a technology that operates "just at the edge of the threshold of audibility, between 15 to 20 kilohertz," was "originally aimed at repelling rodents" but was later adopted by police forces and "repurposed on teenagers in the U.K."[160] The same ultrasonic frequencies that affect rodents neurologically, driving them out of spaces where they are deemed undesirable by human powers, affect young human beings to flee from spaces they are deemed undesirable in. The bodies of rodents and teenagers alike are treated by this technology as affective media, hackable and manipulable into following certain neurological directions, inflected by the desires of the technology's deployment; i.e. pest control and crowd control. In other cases, inaudible ultrasound is capable of modulating and manipulating sounds that do fall within the

[158] Ibid.
[159] Ibid.
[160] Ibid, 22.

bandwidth of audible sound when deployed together, in what are known as hypersonic and holosonic affects.[161] In one experiment that studied the rich ultrasonic frequencies of Balinese Gamelan music, research concluded that while played alone, "the very high frequencies were consciously unrecognizable," the ultrasound played together with the instrument's audible frequencies, "enhanced neuronal activity in the alpha frequency range, in a way in which playing them separately did not. Subjects found exposure to both the audible and inaudible together more pleasing."[162] In this case, ultrasonic frequencies modulated the affective transmissions of audible sound despite their own inaudibility, acting as an 'invisible' but nonetheless present and affective sonic force. In other cases, Goodman discusses how "ultrasound deployed in the service of highly directional audio helps initiate this preemptive mode of audiosocial power."[163] Whereas the Mosquito device channels sound to particular spaces toward the affective incitement of annoyance and flight, other, directional, holosonic deployments of ultrasound are capable of inducing other affective relations. Marketed as a "sanitary" alternative to "antiquated germ-tainted devices"[164] of sonic transmission, such as loudspeakers or headphones, Holosonic's Audio Spotlight technology employs ultrasonic frequencies to modulate and deploy audible sounds directionally, into particular physical spaces. This means that while standing in the path of a holosonic beam, you hear something, whereas if you step aside the sound will disappear. Goodman primarily warns of holosonic control as a predatory mechanism of "sonic branding, viral marketing, and preemptive power" that deploys frequencies to interpellate passersby into consumption, constructing "a

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[161] Ibid, 197.
[162] Ibid, 184.
[163] Ibid, 185.
[164]" "Touchless Audio & Directional Sound Speakers," Audio Spotlight by Holosonics, accessed March 29, 2022, https://www.holosonics.com/touchless-audio.

structure of allure for products for which you had no desire, not just because you have not yet been seduced into desiring them but also because they do not necessarily actually exist yet."[165] Products advertised through holosonic control need not exist physically to be marketed holosonically, hacking the biological hearing mechanisms of human bodies to generate a virtual but nonetheless agreeable affective relationship to product consumption. In all cases, ultrasound is relevant as a hackable affective plug into the human body, one that interacts tightly with both sensory audition and audile techniques to generate affective relations between bodies, spaces and desires.

On the low end of the frequency spectrum, Goodman cites bass as a key means by which agents of cultural production deploy vibrational force toward the modulation of affect. For Goodman, bass, particularly as it has been aesthetically innovated and deployed through Jamaican sound system cultures, is capable through the vibrational modulation of affect of "producing an ecology of affects in which bodies and technologies, all functioning as transducers of energy and movement from one mode to another, are submerged."[166] Building on the terminology of Julian Henriques, Goodman discusses the condition of "sonic dominance"[167] as the point at which "sound becomes both a source and expression of power."[168] In the context of bass music cultures, sonic dominance denotes the condition wherein, through the deployment of low frequencies at high amplitudes, "hearing overrides the other senses, displacing the reign of vision … [and] the processing of vibration is particularly pertinent."[169] The capacity of low frequencies at

[165] Goodman, *Sonic Warfare*, 186.
[166] Ibid, 27.
[167] Ibid, 27.
[168] Julian Henriques, "Sonic Dominance and the Reggae Sound System Session," in *The Auditory Cultures Reader*, ed. Michael Bull and Les Back (London: Berg, 2003), 453.
[169] Goodman, *Sonic Warfare*, 28.

high amplitudes to physically rattle material objects, human and inhuman alike, coincides with Goodman's earlier definition of sound systems as the mutually affecting imbrication of "bodies, technologies, and acoustic vibrations."[170] Goodman terms this submission of the senses to the hearing and feeling of low frequency vibrations "*bass materialism*,"[171] bass as a physical, material transducer of affective tonality. In the context of dance music, the physical acoustic vibrations of bass affect the physical, biological and psychological sensorium of human bodies toward "the desired crowd dynamic … of the centripetal, afferent, attractional type."[172] Through this lens, the physical rattling incurred by bass frequencies reflects "the processes of transduction, where one kind of energy is converted into another, creating a surplus in the process, [that] allows access onto the plane of the nexus"[173] of vibrational force as it impacts the human affective sensorium. Through this nexus, wherein music is heard as well as physically felt by a collective of bodies, "transforming sonic energy into the kinetic energy of movement and dance," Goodman contends that the sensory convergence of sound and tactility "contributes to a particular mode of collectivity, activating a power of allure, or provocation."[174] Bass affects bodies through vibration, shaking, rumbling and rattling toward affects of allure or provocation, attraction and aggression. In his case for bass materialism, Goodman identifies the chief affective modulation of sonic dominance in "the mobilization of a sonic ecology of dread: fear activated deliberately to be transduced and enjoyed in a popular musical context."[175] In flattening the senses toward a synesthesia of touch and sound, bass materialism channels affective intensities through the physical rattling of matter itself via low

[170] Ibid, 5.
[171] Ibid, 28.
[172] Ibid.
[173] Ibid.
[174] Ibid, 29.
[175] Ibid.

frequencies deployed at high amplitudes. The sonic dominance of bass materialism is a means of subsuming the body into sound, and, in turn, subsuming individual affects into the collective affective condition, aura or atmosphere. While Goodman cites dread here, I take care to imagine the prismatic capacity of vibrational frequencies to induce different affective relationships between sounds and bodies, individual and collective. Still, dread remains an affect of particular significance in sonic warfare as it relates to Mike Davis' ecology of fear as well as Goodman's analysis of the 'exorcism' of dread into joy through sound system cultures.

Rhythmanalysis: Movement and Time

Beyond the frequencies and amplitudes of acoustic vibrations alone, Goodman turns to rhythmanalysis as another speculative framework of sonic warfare, an attempt to understand rhythm as "the fold of the concrete and abstract"[176] wherein particular moments or affective instances are held together and made sense of by the glue of continuous time and affective modulation. In this effort, Goodman traces the concept of rhythmanalysis from Pinheiro dos Santos through Gaston Bachelard to Henri Lefebvre. Beginning from dos Santos' earlier ontology of vibration "where vibration at the molecular … level constitutes the fundamental yet abstract movement of matter,"[177] the basis for the vibrational transmission of affect throughout all matter, Goodman moves to Gaston Bachelard's critique of Henri Bergson's formulation time as continuous, "undivided, 'pure duration.'[178]" In contrast to Bergson's approach of invariant continuity,

[176] Ibid, 89.
[177] Goodman, *Sonic Warfare*, 85.
[178] Quoted in Eleni Ikoniadou, *The Rhythmic Event: Art, Media, and the Sonic*, Technologies of Lived Abstraction (Cambridge: MIT Press, 2014), 21.

"Bachelard … envisaged 'the present instant' as 'essentially discontinuous' … a heterogeneous multiplicity (made of lines of divergence, divisions, and differentiations)."[179] In Bachelard's regard, time consists of endlessly divisible and disjointed instances, rather than a durable continuum through which only certain elements rise to the surface of human cognition. At this impasse between Bergson's and Bachelard's approaches, Goodman cites Lefebvre's identification of two key characteristics of rhythm as an attempt to synthesize the two theories. Lefebvre characterizes rhythm as comprising "a) Temporal elements that are thoroughly marked, accentuated, hence contrasting"[180] in mood, feeling and intensity, and "b) An overall movement that takes with it all these elements."[181] Rather than oppose the frames of continuity and discontinuity diametrically, Lefebvre's definition synthesizes Bachelard's discontinuity of individual temporal instances with Bergson's continuity of pure, invariant duration to construct a grammar of momentary temporal shifts amid an abstract virtual 'whole' of time.[182] Bachelard's discontinuous moments in time exist enveloped by Bergson's overall current of time itself, producing as a coupled unit the rhythmanalysis of Lefebvre's understanding, characterized by the organization of breaks and continuities in time. This synthesis of Bergson's and Bachelard's approaches constructs an understanding of affects as momentary, future-facing impingements swept by a wave of overall movement through the virtual whole of time.

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[179] Ibid.
[180] Henri Lefebvre, *Rhythmanalysis: Space, Time and Everyday Life*, trans. Stuart Elden and Gerald Moore (New York: Continuum, 2004), 78.
[181] Ibid, 79.
[182] Jonas Rutgeerts, "Revisiting Rhythmanalysis: How Rhythm Operates in the Work of Gaston Bachelard and Henri Bergson," *Parrhesia* 31 (2019): 85–102.

In Lefebvre's definition, rhythm concerns the distribution and carriage of "marked, accentuated, hence contrasting" instances through an "overall movement"[183] of time that gives structure and meaning to this constellation. Carrying this constellation of affective instances through an overall movement of temporal moments, "rhythm enters into a general construction of time, of movement and becoming"[184] relevant to the processions of affect. Returning to dos Santos' and Goodman's vibrational ontologies, affect is carried through rhythmic vibrations, modulated from one moment to the next in rhythmic waves of feeling that sweep bodies over throughout an invariant current of time. Insofar as one temporal element affects and is affected by the last amid the overall movement of time, rhythm forms an ever-shifting continuum of affective potential through time. If rhythm is a carrier of affect, as Goodman argues, how do we parse and understand the affective transmissions of a rhythmic movement? What is a rhythmanalysis of sonic affect? Throughout the above conversations, oscillations between continuity and discontinuity, break and flow, emerge consistently. As such, the study of rhythmanalysis in the affective context of sonic warfare concerns the micropolitics of these breaks and flows and the relations and spaces between markers of time. It is in this sense that Eleni Ikoniadou defines rhythm as "a middle force that occupies the distance between events … It resides between actualized sensed perception and the abstract virtual sphere that encompasses it … In this in-between milieu, perception is revealed as only a part of the assemblage and as affective rather than subjective."[185] The architecture and patterns of these breaks, flows and interstitial zones shape the sediments of ephemeral affects into a tactical grammar for the ontology of vibrational force, wherein rhythms may be

[183] Lefebvre, *Rhythmanalysis*, 78.
[184] Ibid, 79.
[185] Ikoniadou, *The Rhythmic Event*, 21.

constructed and disrupted, conjured, dispersed and dispelled in the modulation of affect to varying effects.

In the milieu of sonic warfare, rhythmanalysis takes on its affective dimension through dos Santos' ontology of vibrational force. In dos Santos and Bachelard's conceptions, rhythmanalysis operates on "physical, biological and psychoanalytical"[186] registers, based on the assumption of quantum physics of "the rhythmic character of matter in vibration."[187] Rhythmic vibrations, as material transducers of sound, feeling and intensity are thus capable of producing a diversity of affective relationships within and among bodies in space and time. In *Rhythmanalysis* (year), Lefebvre builds the foundation for this affective materialism in his formulation of the rhythmic body. Lefebvre generates an array of rhythmic relationships, including "isorhythmia (the equality of rhythms) … polyrhythmia is composed of diverse rhythms … Eurythmia … presupposes the association of different rhythms [and] … arrhythmia, rhythmics break apart, alter and bypass synchronization."[188] Harmony, dissonance, entropy and convergence are affective relations that each emerge from different rhythmic relationships. Building on this relation of rhythm and affect, Goodman continues to develop his own vortical rhythmanalysis through Deleuze and Guattari's theory of the fluid, hydraulic war machine, a mode of science and warfare wherein "one no longer goes from the straight line to its parallels … but from a curvilinear declination to the formation of spirales and vortices on an inclined plane."[189] This approach to rhythm takes the centrifugal movement of a vortex as "the

[186] Goodman, *Sonic Warfare*, 85.
[187] Ibid, 87.
[188] Lefebvre, *Rhythmanalysis*, 67.
[189] Deleuze and Guattari, *A Thousand Plateaus*, 361.

model of the generation of rhythm out of noise,"[190] enabling a discussion of asymmetrical and arrhythmic relations that does not stop short at the disintegration of rhythmic equilibrium. Rather, Goodman identifies this strand of vortical rhythmanalysis as "the ontological grounds for any micropolitics of frequency," wherein sonic warfare is "tactical rather than strategic — a war without aims concerned more with disposition and potential movement than ideology."[191] In contrast to Bachelard's and Lefebvre's concerns with rhythm as a means toward "stability, harmony, and equilibrium,"[192] Goodman's vortical rhythmanalysis of shifting and intensifying arrhythmias "occupies itself more with the intensification of turbulence."[193] Throughout this tracing of perspectives, rhythmanalysis finds its role in sonic warfare as a matrix of tactical tools, maneuvers and endeavors toward the modulation of affect. In addition to the approaches of Bachelard and Lefebve who take as their objects the idealized states of stability, harmony and equilibrium, these tactics can also function on the plane of asymmetry, imbalance, entropy and intervention. A consistent, stable rhythm begets equilibrium, harmony, predictability and order, while arrhythmias induce opposition, chaos, disruption, turbulence.

With regards to affect, rhythmanalysis holds distinct political dimensions in the capacity of rhythms to affect bodies and be affected by other bodies. On the part of the State, "political power knows how to utilise and manipulate time, dates, time-tables … This is officially called mobilisation. The authorities have to know the polyrhythmia of the social

[190] Goodman, *Sonic Warfare*, 107.
[191] Ibid.
[192] Ibid.
[193] Ibid.

body that they set in motion."[194] To stabilize and preserve its own structure, State power endeavors to generate polyrhythmic relationships of harmony, unity, equilibrum or uniformity among its constituent pieces. Beyond sound alone, rhythm entails relationships of space and time among "individuals, groups, entire societies … [in] the extreme case … political and military rhythmanalysis."[195] Political objectives of the State are organized rhythmically: students and laborers alike are meant to work on perpetual rhythms, sleep on a regularized circadian rhythm and participate in a greater social rhythm of the State's political, economic, social and aesthetic regimes. Rhythmic mobilization can take on multiple forms through the State, deployed through sound and beyond to discipline and organize individual and collective bodies. Military rhythmanalysis, for example, manifests viscerally in the image of an armed regiment of countless soldiers marching in firm rhythmic synchrony. Organized spatially in grid form, equal in space between one another and in the distance of each footstep, the regimen produces a resounding acoustic rhythm in the synchronized clattering of thousands of feet on the ground. The regimen relies on this unity of rhythm, too, to understand itself as a cohesive and powerful whole. Fittingly, the marching soldiers are accompanied by the equally stable and pulsing rhythm of the military drumline, whose order and uniformity in space and time are an immediate indication of or claim to power, employed to guide and train the march itself. Between these examples, conformity and uniformity are key rhythmic goals of the State, manifesting in daily life through the polyrhythmic ecosystem of optimal behavioral patterns among citizens, or the relentless, undeviating isorhythms that structure and give meaning and power to military organization.

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[194] Lefebvre, *Rhythmanalysis*, 69.
[195] Ibid.

In contrast to the State's tendency to program and overdetermine equilibriums of rhythm toward uniformity, for cultural workers, "rhythm becomes a logistical delivery apparatus"[196] of affective transmissions. For non-State agents of sonic warfare, rhythm may be used toward anarchic or oppositional tendencies to disrupt, unsettle, even disintegrate established harmonies and uniformities of space and time. In turn, such rhythmic insurgencies also disrupt the affective relations begotten from such State-sanctioned alliances. As an example of such insurgent or oppositional rhythms, Goodman contends that the vortical "strand of rhythmanalysis finds polyrhythms curving off in every direction, forming a rhythmic anarchitecture"[197] by which harmony, uniformity and equilibrium are warped by entropic, centrifugal rhythmic forces. In this strand of rhythmanalysis, rhythm is affective insofar as it beckons and inflects movements and intensities of sonic, spatial and temporal feeling against those induced by rhythmic uniformity, harmony and stability. Writing on Black Atlantic and Afrofuturist processes of sonic warfare, which will be explored in further detail later in this chapter, Goodman describes the attractional rhythms of sound system music cultures as "virtual parasites or affective weapons."[198] For these sound cultures, the "viral contagion"[199] of sonic affect motions toward the non-militarized tendency of sonic warfare, that which seeks to affect political and cultural mobilization through the synesthetic properties of rhythms, frequencies and vibrational force as. Rhythm, in addition to frequency and amplitude, thus contributes to the grammar and grounding for Goodman's vibrational ontology which he places at the center of affective transmission in sonic warfare.

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[196] Goodman, *Sonic Warfare*, 158.
[197] Ibid, 107.
[198] Ibid, 158.
[199] Eshun, *More Brilliant Than The Sun*, -002.

War of Mood: Sonic Affect and the Ecology of Fear

In light of the aforementioned differences in the deployment of these sonic elements, sonic warfare can be defined as the asymmetric struggle of sonic forces between State control apparatuses and alienated agents of civil society. Extruding the ontology of vibrational force from the quantum state of molecular vibration, to the more perceptible pitches of acoustic vibration, and then to the broad affective rhythms that work to mobilize and police bodies, Goodman fashions the argument that "all entities are potential media that can feel or whose vibrations can be felt by other entities."[200] For Goodman, this configuration of affect contagion "forms the backdrop to the affective agency of sound systems"[201] in sonic warfare. While sonic warfare is asymmetrical, its battles can be leveraged, fought and won on registers beyond the military alone. The contagion and mobilization of affects, spread through the material dimensions of sound systems, is instrumental in the production of collective moods or atmospheres, be it through music or military technology. In this "war of mood,"[202] Goodman identifies two competing yet asymmetrical sonic forces. The first of these tactical tendencies in the use of sonic force "is militarized," the affective deployment of sound in military and security contexts ranging from armed invasions to everyday policing. Policing, for Goodman, "denotes not merely a repressive set of exclusions or limits, but a generative distribution of sensations that identify, channel, and amplify sonic power."[203] The State military and police forces of sonic warfare take contagious hold of bodies through what Mike Davis terms the ecology of fear, defined by Goodman as "the affective climate of catastrophic

[200] Goodman, *Sonic Warfare*, 83.
[201] Ibid.
[202] Ibid, 5.
[203] Ibid, 189.

urbanism, the city and its control systems as affected by the threat of natural, technological, sociopolitical or economic disaster."[204] The ecology of fear works affectively and atmospherically to induce an anticipatory relationship to an emergent future that is dangerous, disastrous, regardless of the actual likelihood of disaster occuring. Through the lens of the ecology of fear, we can understand State military and security apparatuses to deploy sound in the interest of producing affective relations to the future designed to ensure the preservation of State authority, in the name of preemptively avoiding or combatting impending disasters that only the State can resolve.

Throughout *Sonic Warfare*, Goodman makes reference to Mike Davis' *Ecology of Fear* (1999) as the affective, atmospheric background condition of urban environments in late capitalist societies. In *The Ecology of Fear*, Davis expresses the "continuing erosion of the boundary between architecture and law enforcement"[205] as a sustained act of preemptive power against urban unrest and other challenges to the allegiance of State power and capital, leveraged, by Davis' account, through the built urban environment and administration of Los Angeles itself. Examining the preemptive ecology of fear as a powerful affective force, Goodman's definition lends the concept a sonic inflection through his analysis of the affective deployment of sound. In this effort, Goodman draws on Jean-Francois Augoyard and Henry Torgue's *Sonic Experience* (2005), which extends Davis' sort of urban analysis to sound. Augoyard and Torgue argue that, given the endless emission and variety of sounds in cities and the modulation of these sounds by the acoustic properties of the built urban environment that contains them, the city can itself

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[204] Ibid, 196.
[205] Mike Davis, *Ecology of Fear: Los Angeles and the Imagination of Disaster* (New York: Vintage, 1999), 364.

be considered an acoustic instrument whose "material and spatial characteristics … can in fact be compared with similar aspects of acoustic instrumentation."[206] Departing from the traditional approach of sound studies that seeks to minutely quantify the acoustic dimensions of listening spaces such as auditoriums or concert halls, Augoyard and Torgue believe that "in inhabited space," such as a city, "quantitative valuation cannot take into account the whole human dimension of acoustic phenomena, the use of qualitative tools is necessary."[207] In this regard, Augoyard and Torgue analyze the instrumental dimension of urban space through, firstly, the contentions that "no sound event … can be isolated from the spatial and temporal conditions of its physical signal propagation [and] Secondly, sound is also shaped subjectively, depending on the auditory capacity, the attitude, and the psychology and culture of the listener."[208] The first of these stipulations paint an image of urban environments as sonic resonance chambers, as "frozen music,"[209] wherein the acoustic orientation of the built environment approaches a "topology of vibrational surfaces … in which every resonant surface is potentially a host for contagious concepts, percepts, and affects."[210] Buildings, for example, are attributed with "countless, constantly actie, inaudible pulsing and vibration."[211] Even while these vibrations of the built environment occur at the level of "infrasound, that is, sounds at frequencies below the threshold of human hearing."[212] These vibrations rumble and inflect the affective sensorium on a level imperceptible to the waking mind, an

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[206] Jean-François Augoyard and Henry Torgue, eds., *Sonic Experience: A Guide to Everyday Sounds*, trans. Andra McCartney and David Paquette (Ithaca: McGill-Queen's University Press, 2005), 4.
[207] Ibid, 5.
[208] Ibid, 4.
[209] Goodman, *Sonic Warfare*, 77.
[210] Ibid, 79.
[211] Ibid, 77.
[212] Ibid, 76.

unconscious envelopment of the human body "by a body of sound that has the capacity to create an autonomous whole,"[213] that begets an affect of smallness and vulnerability in the individual trapped beneath a steel canopy of skyscrapingly massive matter. For Goodman, the city itself is media; the physical construction of walls, buildings and passageways affect human bodies on physical, biological and psychological registers. The psychological register invokes the second of Augoyard and Torgue's stipulations, that "sound is also shaped subjectively, depending on the auditory capacity, the attitude, and the psychology and culture of the listener."[214] This stipulation introduces the audile techniques brought to attention by Brian Kane[215] as significant factors in the analysis of sound to urban spaces. Urban sonic warfare takes on its militarized dimension through the city's role as a seat of State power, wealth and law enforcement. As we will explore, this is a sonic atmosphere imbued with an "ambient thickness"[216] of fear, felt consciously and unconsciously by city inhabitants. Lined by looming, insurmountable skyscrapers, city streets channel bodies endlessly up and down lava-like rivers of brakelights and traffic signals. These urban corridors also channel and amplify sound, acting as resonance chambers of post-industrial capitalism that put constant pressure on the mental health of cityfolk.

Urban environments are imbued with a sonic anxiety that is often unconscious to the waking mind, yet affects the conscious mind from multiple angles. In *24/7*, Jonathan Crary points out that in cities, countless sounds and feelings go unnoticed to the

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[213] Augoyard and Torgue, *Sonic Experience*, 47.
[214] Ibid, 4.
[215] Kane, "Sound Studies without Auditory Culture," 8.
[216] Massumi, "The Future Birth of the Affective Fact," 62.

conscious mind, but are in fact ubiquitous to urban life. These sensations affect the body unconsciously, or else mutably in comparison to the constant waking demands of city life. As Crary illustrates in his description of the semi-conscious state prior to sleep, "involuntarily, one reclaims a sensitivity or responsiveness to both internal and external sensations within a non-metric duration. One hears sounds of traffic, a dog barking, the hum of a white-noise machine, police sirens, heat pipes clanking, or feels the quick twitching of one's limbs, the pounding of blood in one's temples, and sees the granular fluctuations of retinal luminosity with one's eyes shut."[217] These sensations proceed unregistered during waking hours, yet constantly affect the moods, feelings and intensities of daily life.

Augoyard and Torgue's analysis of the cityscape shows that these affective transmissions are broadcast and amplified by the built environment itself. This is a condition that both capital and law enforcement take advantage of. Throughout *Sonic Warfare*, Goodman discusses sonic branding as a force in the production of speculative affects, which work to precondition the human body toward an attitude of consumption. Muzak, also known as elevator music, sonically butters the body to consume through its "mode of ubiquitous listening that corresponds to a mixing of foreground and background."[218] As cited by Goodman, Augoyard and Torgue define sonic ubiquity as "the difficulty or impossibility of locating a sound source … the sound seems to come from everywhere and nowhere."[219] As such, Muzak is music that is at once agreeable, welcoming, even, and totally mutable. It affects a sense of calm, wellbeing, and readiness to consume as if from

[217] Jonathan Crary, *24/7: Late Capitalism and the Ends of Sleep* (New York: Verso, 2013), 126-27.
[218] Goodman, *Sonic Warfare*, 143.
[219] Augoyard and Torgue, *Sonic Experience*, 130.

thin air. The principle of audio virology, or the capacity of affect contagion through the material of sound, "starts from the premise of a mode of audition that is 'always on'"[220]– that is, the affective sensorium of the human body is constantly receiving inputs, and thus is constantly ripe for hacking, modulation and reconfiguration. Goodman suggests that, "if Muzak as sonic architecture preempted the environment of ubiquitous audition in which consumption is now routinely submerged, then sonic branding and its genealogy traceable to radio jingles aim to catalyze the motivation to consume."[221] As such, when one traverses a late capitalist cityscape, one is never truly alone. Sound is ubiquitous and unregistered, omnipresent and invisible in its manipulation of affective sensorium. As Muzak and sonic branding illustrate, these sounds can suggest that the only respite from the urban ecology of fear is to be found in capitalist consumption.

Sounds of the Police

At the same time as capital infiltrates bodies with infectious, addictive earworms and hyper-calming, department-store-flotation-tank music, fear, as "our overriding affective syndrome"[222] triggered by the sounding of alarm, also plays a near-ubiquitous role in the urban instrumentarium of the cityscape. While the "noise pollution of infrasonic rumbles, murmuring, reverberations, and other sonic detritus"[223] provides the anxious vibrational backdrop of the cityscape on the tectonic level, the city is rife with more immediately arresting forms of sonic policing as well. These techniques range from police sirens to ultrasonic devices. At the threshold of audible frequencies, particularly the high end of

[220] Goodman, *Sonic Warfare*, 145.
[221] Ibid.
[222] Ibid, 12.
[223] Ibid, 187.

ultrasound, the aforementioned Mosquito Anti-Social Device (M.A.D.) is advertised to emit particular ultrasonic frequencies that most people over the age of 25 have lost the capacity to hear, able to achieve its "desired effect– moving the crowds away– within just a few minutes"[224] in folks specifically below that age threshold. Biologically speaking, these crowds must be young to be affected; the youth typically at the helm of civil unrest are those biologically targeted by this form of sonic policing. Ultrasound has also been adapted to target specific spatial locales "using inaudible, ultrasonic frequencies, which, due to the nonlinear yet predictable properties of air, become audible to those who stand in front of the beam."[225] In this instance, holosonic control is leveraged as a targeted distribution of high-frequency sound that is invisible and deployed in extremely narrow spatial ranges, effectively policing the walkability or standability of urban spaces deemed in need of securitization or social control. In both of these examples, ultrasound is employed as a regulator of bodies in space. While the Mosquito works toward the dispersal of young crowds, holosonic beams interpellate control on a more individual basis, infiltrating the sensorium of those who cross paths they are apparently not allowed to traverse.

Police sirens and alarms play off the autonomy of felt threat in the ecology of fear.[226] Police sirens are not God-sent messages that crime has occurred, or that armed and dangerous law enforcement are imminent, yet they function affectively as such depending on audile technique. Returning to Massumi's argument in "The Birth of the Affective Fact," while the threat signified by alarm does not contain the signified threat itself, the

[224] Ibid, 183.
[225] Ibid, 186.
[226] Ibid, 71.

alarm itself affects the fear that the actual threat would inspire. Massumi's reasoning follows that "threat does have an actual mode of existence: fear, as foreshadowing. Threat has an impending reality in the present. This actual reality is affective. Fear is the anticipatory reality in the present of a threatening future."[227] When a police siren sounds, "the sound in fact beckons the event. The vibrations of the alarm literally set the affective tone, the collective mood"[228] of fear. Not only are urban law enforcement aware of this affective mechanism, they actively design and amplify its sonic intensity through the specifications of police sirens. Goodman discusses the like-minded awareness of film sound designers that "certain frequencies can produce an affective tonality of fear in which the body is left poised in anticipation."[229] In this vein, police sirens that emit simultaneously low- and high- octave registers of the same sound play on the evolutionary logic of the human body. Whereas "the production of low-pitched sounds is often linked to a large body size or resonance cavity,"[230] such as a large, looming predator, high frequencies are conversely associated with small or fast moving bodies, such as birds or babies. The combination of these frequency resonances in the human body, hardwired by millenia of evolutionary survival tactics, affect an uncanny sense of unease akin to that sought after by horror film sound designers who employ the same strategies in the sound design of monsters. These sounds are anticipatory insofar as they put us on guard, so that "every pore listens for the future. Just think of the *uneasy listening* of atonal or discordant sound, or the sense of dread induced by low-frequency drones."[231] Such is the State's production of the affective tonality of fear in the urban

[227] Massumi, "The Future Birth of the Affective Fact," 54.
[228] Goodman, *Sonic Warfare*, 71.
[229] Ibid, 189.
[230] Henkjan Honing et al., "Without It No Music: Cognition, Biology and Evolution of Musicality," *Philosophical Transactions of the Royal Society B: Biological Sciences* 370, no. 1664 (2015): 7.
[231] Goodman, *Sonic Warfare*, 189.

soundscape. As Goodman warns, these affective tonalities of fear, "ingrained and designed into architectures of security, can become the basis for a generalized ecology, influencing everything from microgestures to economics."[232] As the above examples show, sonic warfare is not a militarized endeavor leveraged through raw amplitude alone. Sound is also a technology of securitization and the desire to produce an atmosphere or ecology of fear that both beckons life to the consumption/protection of capital and induces submission to law enforcement.

State Sonics and Channels of Power

To better understand the varied and asymmetric forces, strategies and tactics of sonic warfare, we turn to Gilles Deleuze and Felix Guattari's meditations on the warfare of State power in comparison to the nomadic war machine of civil society that works to decode the State's overdetermination. At different poles of sonic warfare, "two basic tendencies could be identified … One is militarized, and the other engages in warfare with an altogether different set of priorities."[233] The militarized pole of sonic warfare is straightforward in its investments and location: the State and its vested interests in maintaining a political and economic status quo through the use of military force and law enforcement, even distributing these forces beyond the State's own borders under the right political impetus. Deleuze and Guattari write that the power of the State is channeled through two functions, "the despot and the legislator, the binder and the organizer."[234] The legislative role of the State comprises law and law enforcement, the use of "violence that is not channeled through war … police officers and jailers in place

[232] Ibid.
[233] Ibid, 11.
[234] Deleuze and Guattari, *A Thousand Plateaus*, 352.

of warriors, has no arms and no need of them, operates by immediate, magical capture, 'seizes' and 'binds,' preventing all combat."[235] This "apparatus of capture" is found in the State's engagement in sonic warfare through law enforcement; "one tactical deployment of sound is subordinated to the strategic aim of crowd dispersal, to the dissipation of a collective energy, to repulsion and dissolution of clusters, and to the individualization of the movement of bodies."[236] For the despotic element, "the State acquires an army, but in a way that presupposes a juridical integration of war and the organization of a military function."[237] Following Goodman's summary of Deleuze and Guattari's formulation of war as "an undercurrent, with its militarized instantiation only a captured subset,"[238] the sonic warfare of the State also includes the integration of an omnipresent undercurrent of war into realized military instantiations. The organization of an army or the strategic planning of an invasion mark the State's entrance into militarized warfare. In either case, legislative or despotic, "war is not contained within this [State] apparatus."[239] The state participates in the war machine through military and law enforcement, but does not produce war itself. War itself, according to Deleuze and Guattari, is "irreducible to the State apparatus … outside its sovereignty and prior to its law: it comes from elsewhere."[240] Despite the multiple instantiations of warfare by the State apparatus through military and law enforcement, warfare neither begins nor ends with the State. Applied to sonic warfare, this definition of war demands investigation into the State's appropriations, integrations and inflections of war through sound; as well as the

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[235] Ibid.
[236] Goodman, *Sonic Warfare*, 11.
[237] Deleuze and Guattari, *A Thousand Plateaus*, 352.
[238] Goodman, *Sonic Warfare*, 33.
[239] Deleuze and Guattari, *A Thousand Plateaus*, 352.
[240] Ibid.

oppositional and anarchic deployments of sound that exceed the relatively narrow channels of the State's sonic warfare.

Sonic warfare is tangible as an exercise of the State apparatus through continual meldings of the roles of despot and legislator, blurring the lines of military and law enforcement in military and law enforcement operations alike. For example, hundreds of long-range acoustic devices (LRADs), a technology originally "developed in a weapon programme but is now denoted as a hailing and warning device … have been sold to and used by mainly military forces, in particular of the USA in occupied Iraq, but police, port authorities and border patrol have also ordered the LRAD."[241] According to Goodman, LRADs deploy "targeted high-fequency beams of sound about 2,100 to 3,100 hertz of up to 150 decibels [well beyond the threshold of hearing damage at prolonged exposure to 120 dB and above[242]] within a range of 100 yards."[243] Applications of the LRAD, described in a product guide as "an effective less-than-lethal tool to communicate, affect behavior, and support lethal rules of engagement,"[244] have ranged in use by the National Guard "in the aftermath of Hurricane Katrina to repel looters,"[245] by the New York City Police Department "during the protests at the Republican Convention in August 2004,"[246] and notably by the United States military in Iraq, including a "problematic application" wherein the LRAD was used "to draw out enemy snipers who were then destroyed by US

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[241] Jürgen Altmann, "Millimetre Waves, Lasers, Acoustics for Non-Lethal Weapons? Physics Analyses and Inferences," Forschung DSF (Osnabrück: Deutsche Stiftung Friedensforschung, 2008), 6.
[242] Goodman, *Sonic Warfare*.
[243] Ibid, 21.
[244] Ibid.
[245] Ibid.
[246] Altmann, "Millimetre Waves, Lasers, Acoustics for Non-Lethal Weapons?" 46.

snipers."[247] In other cases, sound can be deployed to push the autonomic buttons of human nervous systems: "Frequencies of 7 hertz, for example, coincide with theta rhythms, thought to induce moods of fear and anger."[248] Beyond the specialized technologies of devices such as the Mosquito and LRAD, sound has been deployed in gray areas of State power such as psychological operations and torture. Torture affected by music and sound played at extreme volumes is a tactic of the State's sonic warfare deployed in "Afghanistan, Guantánamo Bay, Abu Ghraib, anywhere touched by the War on Terror."[249] In this regard, Moustafa Bayoumi writes of the "calculated combination of psychological and physical means of coercion that stop short of causing death and pose little risk that telltale physical marks will be left behind, but that nonetheless can cause extreme psychological trauma."[250] Beyond the damage sonic torture inflicts on the human body and nervous system, this instance of sonic warfare extends to abuse the asymmetric representation of warfare and human rights in western media. As Goodman notes, such torture tactics "whose wounds are invisible and nonlethal … [are] less likely to trigger waves of revulsion through the networked consciences of global media."[251] The strategy of psychological sonic warfare has precedent in the early 1970s, when the United States Army launched two psychological operations campaigns in Vietnam that played on the use of sound as a physical and psychological weapon. The Urban Funk Campaign "deployed helicopter-mounded devices known as sound curdler systems … capable of unleashing siren frequencies of between 500 and 5,000 hertz and of inducing panic. With more powerful amplifiers, the device made it possible to construct a sonic pyramid up to

[247] Ibid.
[248] Goodman, *Sonic Warfare*, 18.
[249] Moustafa Bayoumi, "Disco Inferno," in *This Muslim American Life: Dispatches from the War on Terror* (New York: New York University Press, 2015), 175.
[250] Ibid, 177.
[251] Goodman, *Sonic Warfare*, 18.

3,500 meters in height, bathing the jungle canopy with an invisible and mobile architecture"[252] of painful and panic-inducing sounds. In Operation Wandering Soul, "haunting sounds said to represent the souls of the dead were played in order to perturb the superstitious snipers."[253] This operation deployed sound to exploit the Buddhist beliefs and audile techniques of enemy combatants, to the effect of "immediately [drawing] enemy fire, making the Vietcong soldiers vulnerable to attack as opposed to encouraging them to surrender or defect peacefully."[254] This plethora of examples illustrates a regular and widespread elision of the despotic and the legislative in sonic warfare, a blurring of military and law enforcement roles in the twentieth and twenty-first century State.

Nomadic Sonic War Machines

At another pole of sonic warfare, Deleuze and Guattari's concept of the nomad war machine illustrates the decentralized, experimental and guerrilla tendencies and tactics of sonic warfare leveraged against the State. In alignment with the claim that "the war machine is irreducible to the State apparatus … outside its sovereignty and prior to its law: it comes from elsewhere,"[255] the nomad war machine exists within but works to open possibilities beyond the State's capabilities of control. Deleuze and Guattari write that "the oriental State is in direct confrontation with a nomad war machine … it is the war machine, as nomad, that invents the abolitionist dream and reality."[256] How is this achieved? For Deleuze and Guattari, "we start with the archaic imperial State:

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[252] Ibid, 19.
[253] Ibid, 20.
[254] Ibid.
[255] Deleuze and Guattari, *A Thousand Plateaus*, 352.
[256] Ibid, 385.

overcoding, apparatus of capture, machine of enslavement. It comprises a particular kind of property, money, public works."[257] "Overcoding" here refers to the overdetermined codifications of law and order of the modern nation-State. Law and order is employed to assert the State's sovereignty as a static, unchanging and powerful entity. Overcoding entails the drawing and securing of overdetermined geographic borders, a juridical 'rule of law' and attendant law enforcement, and biopolitical standards and measurements of life and death designed to homogenize populations into a "global mass"[258] whose health is measured by aggregate measurements and statistics of "birth, death, production, illness, and so on."[259] A key lens through which to understand the State overcodification of life consists in the biopolitical aspect of "control over relations between the human race … insofar as they are living beings, and their environment, the milieu in which they live."[260] In terms of sound, such biopolitical control mechanisms of the State manifest as noise ordinances, which in the case of the United States' Noise Control Act advocate for the State control of sound emissions through an appeal to "the health and welfare of the Nation's population."[261] In *Noise: The Political Economy of Music* (1984), Jacques Attali conducts a genealogy of such noise control measures, contending that "everywhere, power reduces the noise made by others and adds sound prevention to its arsenal. Listening becomes an essential means of surveillance and social control."[262] By prohibiting the deployment of noise in contexts such as public concerts and protests,

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[257] Ibid, 448.
[258] Michel Foucault, "17 March 1976," in *Society Must Be Defended: Lectures at the Collège de France, 1975-1976*, trans. David Macey (New York: Picador, 2003), 242.
[259] Ibid, 243.
[260] Ibid, 245.
[261] US EPA, "Summary of the Noise Control Act," Overviews and Factsheets, United States Environmental Protection Agency, February 22, 2013, https://www.epa.gov/laws-regulations/summary-noise-control-act.
[262] Jacques Attali, *Noise: The Political Economy of Music*, trans. Brian Massumi (Minneapolis: University of Minnesota Press, 1984), 122.

while simultaneously monopolizing the use of sound weaponry such as the LRAD, the State regulation of sound constitutes a biopolitical overcodification of life that is "continuous, scientific, and it is the power to make live … the power of regularization."[263] The overcodifications of noise ordinances are continuous insofar as they are enforced at all times and across spaces both public and private. It is scientific insofar as the law makes a scientific, biopolitical appeal to public health as its means of justification, while also employing scientific research to optimize its means of torture and control. It is a power to make people live conditionally, under the condition that they are not 'too loud' or that they avoid being in earshot of a strategically placed LRAD. This is a regularizing power insofar as it instills these norms in the fabric of human relations from the top down. In sum, the State overcodes insofar as it strives toward the overdetermined codification of the conditions of its own existence, through the drawing up of borders, laws and law enforcement. These concerns are reflected in the aforementioned deployments of sonic warfare by the state; from law enforcement to border control to military invasions, from repelling looters (protecting property) to torturing suspected terrorists to luring enemy combatants to certain death.

In line with their distrust of arborescent knowledge, hierarchies and power structures of this sort, Deleuze and Guattari are skeptical that any such project of State overdetermination can last, asking, "once the State has appeared, formed in a single stroke, how will it evolve?"[264] Answering their own question, they contend that "the principle of evolution is internal, whatever the external factors that contribute to it. *The*

[263] Foucault, "17 March 1976," 247.
[264] Deleuze and Guattari, *A Thousand Plateaus*, 448.

archaic State does not overcode without also freeing a large quantity of decoded flows that escape from it."[265] Deleuze and Guattari define "decoding" as the "state of a flow that is no longer contained in *(compris dans)* it own code, that escapes its own code."[266] Decoding marks the impossibility of the State's project of overcoding of war to implicate all life and death into maintenance of power. In other words, "*the overcoding of the archaic State itself makes possible and gives rise to new flows that escape from it*."[267] To decode the warfare of the State is to not only use its coded materials as a revolt against its own overdeterminations, but also to develop novel methods, tactics and flows that exceed the State's comprehension of itself, and in turn, its capacity to efficiently respond to and sustain its own regime of control. To decode the *sonic* warfare of the State, could in turn imply the deployment of ephemeral warehouse raves, house shows and other potent if temporary sites of affective transmission. Sonic warfare leveraged through underground shows, the intentional violation of noise ordinances and the 'inappropriate' sounding of music and noise decodes the State's noise ordinances in that it proves that sound, like war, precedes the State and exists prior to its law. A clandestine party can be shut down, but only after the noise ordinance has been broken, only after sound has been made. On this principle, when one is shut down, three more will pop up independently in different points of the city the next night if not the same. State power, in attempting to monopolize sound as a physical material that inherently precedes and exceeds political institutions, loses to the excess and clandestine noise that will always exceed and decode its sonic jurisprudence.

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[265] Ibid.
[266] Ibid, 449.
[267] Ibid.

For Deleuze and Guattari, this is the work of the nomadic war machine. If the State is an archaic machine comprising warfare on multiple registers, military and law enforcement, to ensure its own existence and reproduction, then the nomadic war machine is an anarchic machine with an altogether different, experimental and rhizomatic set of capacities and potentials. Given that the war machine is exterior, or "irreducible to the State apparatus … outside its sovereignty and prior to its law,"[268] the oppositional and anarchic tendency of sonic warfare cannot be reduced to the roles of despot or legislator, of military or law enforcement. A third role or tendency emerges from Deleuze and Guattari's subsequent proposal that "*the exteriority of the war machine … intimates the existence and perpetuation of a 'nomad' or 'minor science.'*"[269] The 'nomad' or 'minor science' exceeds, eludes and evades the State's overcoding of existence insofar as the war machine exceeds the State's narrow channeling of warfare into military and law enforcement functions. The nomad war machine "is like a pure and immeasurable multiplicity, the pack, an irruption of the ephemeral and the power of metamorphosis … He brings a *furor* to bear against sovereignty … secrecy against the public, a power (*puissance*) against sovereignty, a machine against the apparatus."[270] The minor science of the nomad war machine is subversive, occult, constantly teeming, fleeing, adapting and evolving along the blindspots and margins of State power or 'royal' science. In this sense, "the war machine is projected into an abstract knowledge formally different from … the State apparatus … the two kinds of science have different modes of formalization, and State science continually imposes its form of sovereignty on the inventions of nomad

[268] Ibid, 352.
[269] Ibid, 361.
[270] Ibid, 352.

science."[271] Whereas the royal science of the State seeks stasis, identity, and stability to produce a blanket of constant power, "the hydraulic model of nomad science and the war machine … consists in being distributed by turbulence across a smooth space, in producing a movement that holds space and simultaneously affects all of its points, instead of being held by space in a local movement from one specified point to another."[272] The nomadic war machine thus stands to disrupt State power and the overdetermined structures that provide its claims to legitimacy. Taking noise ordinance as an example, if the police shut down one house party for violating a noise ordinance, five more secret raves will pop up across the city the next night, decoding the State's overcoded noise legislation. To decode the State's overcodification of life is to turn attention to the fluid becoming and heterogeneity of knowledge, rather than static being and identity. It is to be adaptable, pragmatic and resourceful. It is in this sense that the nomadic war machine is "hydraulic."[273] It is fluid, capable of constant metamorphosis depending on the direction, intensity and pressurization of the State's overcoded flows. The nomadic war machine flees, deterritorializes and experiments with the power and knowledge of the State, producing turbulence, innovating knowledge and inventing pragmatic minor sciences along the way.

Technological Abuses

The nomadic, minor scientific dimension of sonic warfare is a major concern throughout Goodman's book, and largely focuses on the deployment of sound by musicians of a variety of genres and political positionalities. Throughout Goodman's examples, a

[271] Ibid, 362.
[272] Ibid, 363.
[273] Ibid.

near-constant is the military-industrial origins of the media and sound technologies employed by cultural workers whose acts engage in sonic warfare against the State and its military and law enforcement apparatuses of sonic warfare. The military-industrial origins of these media and sound technologies, including their use toward the modulation of human affects, extends for centuries. In *Gramophone, Film, Typewriter* (1999), Friedrich Kittler traces the military-industrial origins, and subsequent civil bastardizations, of the book's eponymous media technologies[274]. Goodman summarizes Kittler's work into three historical-technological phases: "Phase 1 was initiated by the American Civil War and the development of storage devices for acoustic (gramophone), optical (film), and writing (typewriter) data. The second phase emerged around World War I and the development of electric transmission media for these data in the form of radio and television. Phase 3 began around World War II with the emergence of cybernetics … culminating in ubiquitous digital processing, which folds existing modes into a multimedia."[275] Goodman is careful to note that "Kittler's argument is more complex than the easily refutable notion that all media technologies are predetermined by their military origin."[276] Instead, Kittler seeks an understanding that "the entertainment industry is, in any conceivable sense of the word, an abuse of military equipment."[277] Kittler's advocacy for the term "abuse" in the development of contemporary media and sound technologies, in spite of their frequently military-industrial origins, aligns with Deleuze and Guattari's notion of minor science or the nomadic war machine. If the State's 'royal' science of "control, or … negative feedback, is the key to power in this

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[274] Frierich A. Kittler, *Gramophone, Film, Typewriter*, trans. Geoffrey Winthrop-Young and Michael Wutz, Writing Science (Stanford: Stanford University Press, 1999).
[275] Goodman, *Sonic Warfare*, 32.
[276] Ibid.
[277] Kittler, *Gramophone, Film, Typewriter*, 97.

century, then fighting that power requires positive … endless feedback loops until … the whole array of world war army equipment produces wild oscillations."[278] Negative feedback in sonic warfare is the conservative, arborescent science of the State which seeks homeostasis through the dampening and management of challenges to State power. In contrast, positive feedback amplifies, propels and distorts change, producing a rhizomatic evolutionary track that is indeterminate from the beginning, certain only in its entropic effects on the State's sovereign power.

As a key example of a non-militarized abuse of military-industrial technology in the nomadic spheres of sonic warfare, Goodman invokes the origins of the vocoder in World War II. The vocoder, described by Kittler as "a wonder weapon that was to make the Transatlatnic conversation between Churchill and Roosevelt safe from interception," would soon become "indispensable to popular music"[279] in its use by artists ranging from Kraftwerk to Herbie Hancock to Tupac.[280] In sum, "Kittler's analysis through the prism of technological evolution ensures that the abuse of hardware and software is placed at the center of a nonmilitarized sonic warfare."[281] Beyond the fact of technological innovation itself, what do these abuses of military-industrial technology look, sound and feel like? How have different political contexts and positionalities developed guerilla tactics of sonic warfare that work toward larger political goals? As the example of the vocoder illustrates, if the State deploys sound to capture and arrest, to maim or even kill, the

[278] Ibid, 110.
[279] Ibid, 49.
[280] Goodman, *Sonic Warfare*, 166.
[281] Ibid, 33.

nomadic sonic war machine can employ and innovate the same sound technologies as means of aesthetic speculation and mobilization.

Section V: Afrofuturism and Sonic Futurisms

From Fraught Futurities

A key starting point for understanding popular cultural manifestations of nomadic sonic warfare lies in Afrofuturism, a twentieth and twenty-first century AfroDiasporic literary movement that challenges the type of preemptive power that Brian Massumi holds responsible for the increasing militarization of life in the twentieth and twenty-first centuries. Decades prior to Afrofuturism's proliferation in the latter half of the twentieth century, the dominant western movement of future-oriented sounds was Italian futurism, launched by Italian ex-military artists and poets in the aftermath of World War I. In *The Art of Noises* (1913), Italian Futurist painter Luigi Russolo expresses "a frustration with the sonic present,"[282] writing that "each sound carries with it a tangle of sensations, already well known and exhausted, which predispose the listener to boredom."[283] According to Russolo, acoustic instruments were no longer enough to keep music alive. What the music of the future needed was the deafening presence of unprecedented machinery, speed and volume. Contrary to its name, Goodman leverages the critique that this "futurist orientation to time was not so much futurological, that is, of predicting what was to come, but rather of developing tactics to accelerate out of the tedium of the present"[284] through an aesthetic emphasis on raw speed, motion and amplitude pushed to the technological extremes of the time. In this way, the futurity of Italian futurism was shell shocked by the industrial carnage of World War I, unable to cope with the eerie

[282] Russolo, quoted in Ibid, 55.
[283] Russolo, quoted in Ibid.
[284] Ibid.

silence of its direct aftermath except for reproducing the frightful sounds and affects of the trenches.

Russolo's deference to the present in an alleged movement toward futurity fails for Goodman insofar as it imagines a future molded in the image of the Italian Futurists' present. Rather than speculate beyond the prospects of military industrialism, Italian futurism sought only to confirm a conservatively "unilinear notion of history, of technological progress and the enhancement of the human condition by prosthetic appendages. Man, for futurism, is not truly mutated, but is only upgraded in a white, metalicized ubermensch."[285] As such, Goodman charges Italian futurism as "chrono-strategically compromised,"[286] echoing Ikoniadou's contention that "conventional approaches to notions of novelty, change, and potential have led us to believe that time exists as a linear chronological scale, and that we can apply instrumental reason to predict and thus model and manage the future."[287] Italian futurism failed to identify, challenge and subvert the futures narrativized by World War I, those of the imperial will to power and expansion through machinery. This model figured ever-increasing speed and ever-loudening noise as the optimal mode of aesthetic and political survival in an industrial machinic world. In a nod to Paul Gilroy's formulation of *The Black Atlantic* (year) as a "counterculture of modernity,"[288] Goodman understands the Italian futurist fetishization of noise and speed as "white noise"[289] concerned with the avant-gardes of colonial powers whose dominance reigned at the time of World War I,

[285] Ibid, 59.
[286] Ibid.
[287] Ikoniadou, *The Rhythmic Event*, 67.
[288] Paul Gilroy, *The Black Atlantic: Modernity and Double Consciousness* (Cambridge: Harvard University Press, 1993), 1.
[289] Goodman, *Sonic Warfare*, 59.

and whose dissident postcolonial critics had yet to emerge to identify, critique and subvert in academic terms the early 20th century Europe's imagination of its own ideal future.

Afrofuturism: Preprogramming the Present

In contrast, Afrofuturism adopts the political imperative "to pinpoint, combat, and subvert those predatory futurologies of science fiction capital that trap Africa, and its diaspora's future in a demoralizing doomsday of forecast archetypal dystopia, usually economic, ecological, or epidemiological."[290] The term Afrofuturism was coined in 1994 by white American cultural critic Mark Dery in interviews with African American science fiction writers Samuel R. Delany, Greg Tate, and Tricia Rose.[291] However, its foundational questions had been posed decades earlier in works such as John Coney and Sun Ra's 1974 film, *Space Is the Place*[292], as well as by Octavia E. Butler, who in 1980 raised the point that "Blacks, Asians, Hispanics, Amerindians, minority characters in general have been noticeably absent from most science fiction. Why?"[293] For Eshun, "Afrofuturism's first priority is to recognize that Africa increasingly exists as the object of futurist projection. African social reality is overdetermined by intimidating global scenarios, doomsday economic projections, weather predictions, medical reports on AIDS, and life-expectancy forecasts, all of which predict decades of immiserization."[294] From Eshun's concern, we can deduce that western science fiction plays a speculative yet

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[290] Ibid, 61.
[291] Mark Dery et al., "Black to the Future: Interviews with Samuel R. Delany, Greg Tate, and Tricia Rose," in *Flame Wars: The Discourse of Cyberculture*, ed. Mark Dery (Durham: Duke University Press, 1994), 179–222.
[292] John Coney, *Space Is the Place*, 1974.
[293] Octavia E. Butler, "In 1980: Octavia Butler Asked, Why Is Science Fiction So White?," Garage, 2018, https://garage.vice.com/en_us/article/d3ekbm/octavia-butler.
[294] Eshun, "Further Considerations on Afrofuturism," 291-92.

overcoding role in the imagination of feasible geopolitical futures, even when fictionalized to so-called distant times and places. Goodman and Eshun employ Mark Fisher's notion of science fiction (SF) capital to illustrate "the synergy, the positive feedback between future-oriented media and capital," a paradigm in which "information about the future … circulates as an increasingly important commodity."[295] Eshun's approach to SF capital as the science-fictional preemption of future disaster and immiseration resonates with Massumi's line of argument in "The Future Birth of the Affective Fact," where he contends that "what is not actually real can be felt into being. Threat does have an actual mode of existence: fear as foreshadowing. Threat has an impending reality in the present. This actual reality is affective."[296] The overdetermined prediction of "decades of immiserization"[297] for Africa and its diasporas anticipates a future reality that as-of-yet does not exist, but is affectively preprogrammed and felt the feelings and attitudes of the present by the royal science fiction of western global media industries.

SF Capital and Predatory Futurologies

Eshun argues that in the 1990s, Hollywood's ideal futurity was that of a networked, hypercapitalist control society managed by invisible yet omnipresent agents of either the State, alien invasion or the corporate entertainment industry. 1990s Hollywood's science fiction speculations worked to "fuel the desire for a technology boom … Hollywood's 1990s love for sci-tech fictions, from *The Truman Show* to *The Matrix*, from *Men in Black* to *Minority Report*, can therefore be seen as product-placed visions of the

[295] Ibid, 290.
[296] Massumi, "The Future Birth of the Affective Fact," 54.
[297] Eshun, "Further Considerations on Afrofuturism," 292.

reality-producing power of computer networks, which in turn contribute to an explosion in the technologies they hymn."[298] These films consistently feature dystopian futures marked by alien invasions, corporate mind control or State-employed white saviors. That these are the preempted futures deemed to be worth millions of dollars in production budgets, SF capital reifies Massumi's formulation of preemptive power, that seeks to actualize felt relationships to projected precarious futures in the present. Massumi's formulations and examples of preemptive power also give flesh to Eshun's contention that "within an economy that runs on SF capital and market futurism, Africa is always the zone of the absolute dystopia … Market dystopias aim to warn against predatory futures, but always do so in a discourse that aspires to unchallengeable certainty."[299] This sense of certainty is leveraged by a fictional but nonetheless affective and felt relationship to futurity that echoes Ikoniadou's critique of linear, chronological time as a use of "instrumental reason to predict and thus model and manage the future."[300] In light of this connection, the affective fact of fear can be understood as a tool of SF capital as it attempts to engineer the political certainties of the present through the production of preemptive, affective relationships to imagined, science-fictional futures.

The relationship of SF capital and doomsday African futurologies finds further similarities to Massumi's investigation into the affective fact of fear via the United States' false claims that Saddam Hussein possessed WMDs. Even once the claims of WMDs were disproven, the United States government's future conditional argument, that Iraq was 'already' a hotbed of unspecified future terrorist threats anyway, retroactively

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[298] Ibid, 290.
[299] Ibid, 292.
[300] Ikoniadou, *The Rhythmic Event*, 67.

justified its invasion and the lives that had already been lost in the name of preemptively toppling a 'likely' nuclear threat. Coincidental with the popular dubbing of the United States' invasions of Iraq and Afghanistan as "the forever wars," a term that "has grown in usage in the post-9/11 era,"[301] Eshun evokes a key concept from Joe Haldeman's identically titled 1974 novel, *The Forever War*, to illustrate the mechanism of Afrofuturist science-fictional intervention into the future. As Eshun summarizes, "the collapsar, a slippage in time, is a collapsed star in which the times between what's to come and what hasn't happened yet implode and fold upon each other."[302] To use the collapsar as an instantaneous interface between the present and the future, as a means of preprogramming the future through interventions made in the present, Haldeman's narrator informs that all you have to do is "just fling an object at a collapsar with sufficient speed, and out it pops in some other part of the galaxy … Travel time between the two collapsars … exactly zero."[303] This is a temporal technology that the 21st century American government made unprecedented use of in the wake of 9/11, casting bones of future threats through the collapsar of preemptive power to produce the projected conditions of war and terrorism, the War on Terror, in advance.

Collapsar Blues: Intervention in Preemption

As Haldeman's narrator observes, however, the collapsar is neither property nor production of the State alone– it is a neutral, natural phenomenon that can be hacked and manipulated by a variety of agents, interests and forces. To this point, Eshun asks, "what

[301] David Sterman, "Endless War: A Term with a History and a Definition," Defining Endless Wars (New America, 2021), https://www.jstor.org/stable/resrep28479.4.
[302] Eshun, *More Brilliant Than The Sun*, 10.
[303] Joe Haldeman, *The Forever War* (New York: Thomas Dunne Books, 2009), 3.

if time isn't a besieged trench on a Forever War, but an indeterminate situation"[304]? Eshun exemplifies Detroit techno collective Underground Resistance as agents working to hack the predatory relationships to futurity that fuel the forever wars as well as the market projections of protracted African immiseration. For Eshun, Underground Resistance produce "music as episodes from an ongoing battle, a Forever War against the programmers"[305] of preemptive power and SF capital. In this regard, Afrofuturism seeks *ins* to disrupt preemptive power, leveraged in the case of Underground Resistance through the narrativization of sounds, artworks and album titles– sonic fictions that "[develop] an entire war, an entire military assault, a whole kinaesthetic of war based around the release of their single. How each single becomes like a missile launched in war against the programmers."[306] Sonic fiction, for Eshun, is the deployment and discursive characterization of sounds toward the construction of fictional worlds, "with frequencies fictionalized, synthesized and organized into escape routes"[307] from the political preemption of future immiseration. Sonic fictions are "sonar systems through which audio ships travel at the speed of thought,"[308] working through sound and music to affect relationships with what is to come and what has not yet happened. But what do such sonic fictional approaches to intervention look, feel and sound like, on the analytic plane of sonic warfare? Against the royal science of Hollywood SF capital, what is the nomadic war machine of Afrofuturist sonic process, and how do sonic fictions aid in its efforts? When we ask what do Afrofuturist engagements in sonic fiction do in the context of sonic warfare, especially in the face of the State's "envisioning, management, and

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[304] Eshun, *More Brilliant Than The Sun*, 157.
[305] Ibid, 121.
[306] Ibid, 126.
[307] Ibid, 103.
[308] Ibid, 25.

delivery of reliable futures,"[309] note that each sound, rhythm, frequency and sleevenote stages a simultaneously sonic, political and science-fictional intervention in the State's preemptive narrative of future threat, disaster and immiseration. In light of Afrofuturism's concern "with the possibilities for intervention within the dimension of the predictive … the virtual, the anticipatory and the future conditional,"[310] Goodman contends that Afrofuturism replaces the Italian futurist "art of war in the art of noise … by a rhythmanalysis of preemptive power, a cartography of diasporic bass cultures and their transduction of ecologies of dread, and … audio viruses that Afrofuturist musics and fictions have created."[311] In this analysis, three points of inquiry emerge: the rhythmic dimensions of affective interventions into the future, the vibrational forces of diasporic bass cultures and affective ecologies of dread, and the affect contagion of sonic fictions.

Space Is The Place: Afrofuturist Sonic Fiction and the Treachery of the 'Human'

Afrofuturism's sonic-fictional embrace of an always already alienated and prescribed identity of racialized otherness, paired with its employment (or "abuse") of western military-industrial technologies as sonic war machines, are at the heart of the affect contagion of Afrofuturism across genres, geographies and generations. Throughout *More Brilliant Than The Sun: Adventures In Sonic Fiction* (1998), Kodwo Eshun explores a sonic-fictional continuum of twentieth century Afrodiasporic cultural production. This continuum builds on John Corbett's analysis of astral jazz spaceman Sun Ra, dub production pioneer Lee 'Scratch' Perry, and Parliament funk phenom George Clinton's shared "use of the recording studio, the vinyl record, and the support of art work and

[309] Eshun, "Further Considerations on Afrofuturism," 289.
[310] Ibid, 293.
[311] Goodman, *Sonic Warfare*, 62.

record label as the vehicle for concept albums that sustain mythological, programmatic, and cosmological world pictures."[312] In these instances, Kittler's predilection for the "abuse" of military-industrial-entertainment technologies takes form throughout the fractal cartography of AfroDiasporic musics. Scattered across the Black Atlantic "diaspora connecting the UK to the US, the Caribbean to Europe to Africa, … in Paul Gilroy's definition a 'rhizomorphic, fractal structure,'"[313] Corbett marvels at the fact that, "coming from different backgrounds, working in different musical genres, based in different parts of the music industry, making music for almost exclusively separate audiences, with divergent political and commercial concerns, Ra, Clinton, and Perry have nonetheless created three compatible personal mythologies, each of which is premised on the connection between identity, madness, and outer space."[314] In the case of each artist, Corbett identifies the employment of aliases, costumes and wordplay[315] as means of sonic fiction through which Ra, Clinton, and Perry intervened in their own alienated relationship to the preempted futures of AfroDiaspoic immiseration by bringing to light their historical exclusion from the European category of the human. With regards to the history of Afrodiasporic consciousness since the Transatlantic Slave Trade, Eshun contends that "the key thing behind it all is that in America none of these humans were *designated* human."[316] In a key contrast to Italian futurism's obsession with technologically upgrading the present human category as a basis for a future ubermensch, the aesthetic and political alienation of Afrofuturism is imbued with an affected "sense of

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[312] Eshun, "Further Considerations on Afrofuturism," 295.
[313] Eshun, *More Brilliant Than The Sun*, -006.
[314] John Corbett, "Brothers from Another Planet: The Space Madness of Lee 'Scratch' Perry, Sun Ra, and George Clinton," in *Extended Play: Sounding Off from John Cage to Dr. Funkenstein* (Durham: Duke University Press, 1994), 11.
[315] Ibid, 11-2.
[316] Eshun, *More Brilliant Than The Sun*, 192.

the human as being a really pointless and treacherous category."[317] For Eshun, the human as defined in Enlightenment and colonial European discourses is a category engineered to create the illusion of the non-human human and generate the pervasive affective reality of racialized othering. The sonic fictions of Afrofuturism thus do not proceed from an imagination of an alternate history or utopian future, but from a stark acknowledgment of the histories of European colonialism and the Transatlantic Slave Trade. The acknowledgment of these histories, and the sonic fictional prolepsis of possible alternative futures, marks a desire to interject sonically into the present that has become, and the futures that threaten to continue to become, of these histories of structural racism and capitalist predation.

Sonic Fiction + Audio Virology = New Folk Cultures

The sonic fictional approaches Ra, Clinton, and Perry, proved contagious beyond their genres, geographics and generations alone. For Goodman, affect contagion begets audio virology, or the affective transmission of "audio viruses,"[318] through sonic fictions and sonic dominance alike. Goodman defines audio virology as the "theory and practice of cultural virology operating at the level of affective contagion."[319] Given the physically gripping properties and future-oriented potentials of sound as a material transducer of affect, sounds that produce, beget, or are congealed with particular affects can transmit and spread those moods, feelings and intensities between bodies. In the audio virology of late-twentieth and early-twenty-first century networked sound, "individual artists or producers … become carriers, events become incidents or outbreaks, scenes become

[317] Ibid, 193.
[318] Goodman, *Sonic Warfare*, 62.
[319] Ibid, 196.

fields of contagion, trade becomes an exchange of contagious sonic fluids or particles, radio becomes a literal transmission network, and acoustic cyberspace, in both its analog and digital domains, becomes an epidemiological field of affective contagion."[320] According to this epidemiological model of affect, the material of sound and the plane of sonic fiction become carriers or agents of affective transmission. A song has the potential to sweep a nation or shift a culture not due to its marketing budget alone, but through the affects imbued in music's existence as "complex cultural artefacts–objects– in their own right," the sounds, images, and narratives installed in the song's mode of dissemination. Be it as a record sleeve, .mp3 metadata, or a Soundcloud post, the "combination of text and images comprises an important, if secondary, element"[321] of the audio virology of Afrofuturist musics. Audio virology also functions through the affects discerned through Goodman's ontology of vibrational force, such as the capacity of low frequency sub-bass to "[transform] the ambience of a space, modulating its affective tonality, tapping into the resonant frequency of objects,"[322] physically shaking a room while inducing affects as varied as peace and dread. When you add into the mix the capacity of digital computer technology to infinitely burn, copy, download, sample, remix and reupload sounds to CDs, USBs, cassette tapes and the internet, we can begin to see the image of late 20th and early 21st century audio virology as a "folk music"[323] or "a shared folk culture, where creative expression is the property of the community at large and can be shared for

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[320] Ibid, 130.
[321] Paul Gilroy, "Wearing Your Art On Your Sleeve: Notes Towards A Diaspora History of Black Ephemera," in *Small Acts: Thoughts on the Politics of Black Cultures* (New York: Serpent's Tail, 1993), 237–55.
[322] Goodman, *Sonic Warfare*, 79.
[323] Jace Clayton, "World Music 2.0," in *Uproot: Travels in 21st-Century Music and Digital Culture* (Farrar, Straus & Giroux, 2016), 102.

everyone's benefit."[324] Audio virology, as a nomadic science of sonic warfare, is in the hands of internet users and technologically oriented cultural workers working to decode the copyright law and demands for cultural authenticity waged by the State.

Transmitted through the vibrational materials of sound and music, affect contagion holds the capacity to mobilize individuals and collectives toward political consciousness and critical dispositions toward history, futurity, property and the State. In contrast to sonic branding, the corporate development and sound design of earworms that "[seek] to induce consumption" through the production of specific affective tonalities, "the contagious vibrations, sonic processes, and market tactics of strains of popular music within the African diaspora … offer a tactical outline of an affective *mobilization* as opposed to the *modulation* of preemptive capital."[325] The immanent neutrality of affect reemerges as a turnkey of audio virology– whatever affects emerge from a sound or song can spread like wildfire to global diasporas of listeners, subject to tonal mutation through differences in audile techniques, auditory cultures, political dispositions and listening situations. In this sense, audio virology is transversal and multilayered. Just as Black Chicagoans sampled and mutated the funk and soul musics of their parents' generation into House music through the application of "stomping four-to-the-floor kick drums" and gradual additions of "hissing hi-hat patterns, synthetic handclaps, synth vamps, chiming bass loops, [and] drum rolls,"[326] a burgeoning electronic music born in Germany could

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[324] Ken Jordan and Paul D. Miller, "Freeze Frame: Audio, Aesthetics, Sampling, and Contemporary Multimedia," in *Sound Unbound: Sampling Digital Music and Culture*, ed. Paul D. Miller (Cambridge: The MIT Press, 2008), 97–108.
[325] Goodman, *Sonic Warfare*, 155.
[326] Dhanveer Singh Brar, *Teklife, Ghettoville, Eski: The Sonic Ecologies of Black Music in the Early 21st Century*, Goldsmiths Press / Sonics Series (Cambridge, MA, USA: Goldsmiths Press, 2021), 17.

reach African Americans in Detroit who would in turn adapt its forms and fashion sonic fictional narratives toward affective tonalities of vigor, alarm, rebellion and dread. While the first case implicates an intergenerational audio virology, an affect contagion of Black dance music cultures from the 60s and 70s into the 80s and 90s, it can also be transnational. This is the case with the musical origins of Detroit Techno, which borrowed its foundational sonic structure and technological form from German synth music.

The process of Afrofuturist audio virology is well documented and exemplified by the African American appropriation of European electronic music in the advent of Detroit Techno. Eshun argues, if controversially, that German electronic music pioneers "Kraftwerk are to Techno what Muddy Waters is to the Rolling Stones: the authentic, the original, the real."[327] While the musical form of driving drum machine beats colored by calculated analog synth tones remained similar between progenitor and progeny, the transition of affective tonality from Kraftwerk to Techno shifted significantly from the "ultra whiteness of an automatic, sequenced future," toward a mobilized, proleptic and interventionist sonic-fictional approach to Black futurity. Inflecting Techno's European roots through alienated political attitudes and nomadic approaches to remixing sound technologies into sonic war machines, Detroit electronic music duo Drexciya embody the affective migration of Afrodiasporic cultural production to electronic music. Through the sound and sonic processes of their music, Drexciya compose "a science-fictional retelling of the Middle Passage."[328] As the liner notes of their 1997 record, *The Quest*, read:

[327] Eshun, *More Brilliant Than The Sun*, 100.
[328] Eshun, "Further Considerations on Afrofuturism," 300.

"During the greatest Holocaust the world has ever known, pregnant America-bound African slaves were thrown overboard by the thousands during labour for being sick and disruptive cargo. Is it possible that they could have given birth at sea to babies that never needed air? Are Drexciyans water-breathing aquatically mutated descendants of those unfortunate victims of human greed?"[329] In this narrative, Drexciya fashions and *is* a rich sonic- and science-fictional world, a technological mythology that stages a revolt on behalf of the lives of the enslaved lost to the linear futurist logic of risk management that fueled "the jettison of slaves for insurance purposes. Here Drexciya posit an alternate ending: that the foetuses of the pregnant women thrown overboard adapted from living in amniotic fluid to living underwater. These newly adapted underwater people and their descendants set up a Black Atlantis called Drexciya at the bottom of the ocean."[330] Drexciya's sonic fiction does not imagine it's futurity in the style of Italian futurism, wherein the aftermath of a wartorn past was sought to be ameliorated through blind human acquiescence to machinery and subservience to the industrial capitalist notion of forward-moving technological progress. Rather, Drexciya approaches the future through the present, taking the present as the future of the past. Drexciyans refuse the future in which they would have been doomed to drown, instead adapting biologically to the alien ocean floor and subsequently establishing an advanced mutant society on this strange new continent. Drexciya is not a utopia, either. It is murky, alien, populated by song titles that throw hints of humanoid survival amid waves of aquatic strangeness and catastrophe: "Under Sea Disturbance", "Digital Tsunami", "Aquatic Cataclysm" and "Birth of a New

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[329] Drexciya, *The Quest* (Submerge Recordings, 1997).
[330] S. Ayesha Hameed, "The Bloop," in *AUDINT—Unsound:Undead*, ed. Steve Goodman, Toby Heys, and Eleni Ikoniadou, Urbanomic / Art Editions (Cambridge, MA, USA: Urbanomic, 2019).

Life"[331] connote realms of undersea possibility without acquiescing to an overdetermined teleology or ideology of progress. All of this with a discernible futuristic undertone that informs us that this is not the same world from which the enslaved were abducted; it is alien, unknown and virtual, but also alternative to the doom prescribed by the captains of the slave ships who jettisoned them. Like all futurisms, affects and virologies, Afrofuturist sonic fictions are not inherently politically progressive or forward moving. In the words of Eshun, Afrofuturism's potential to fall into "the collusions, the complicities, the regressions, the neofascisms of futurism are part of the seriousness of the stakes of the present as future."[332] There are certain responsibilities to being a sonic futurist of any sort. The futurity Drexciya fights for, then, is not one that resolves the predatory environment of technocapitalism[333], but rather one that acknowledges this predation in a way that the twentieth century United States government would not. Drexciya is neither an idyllic utopia nor is it overdetermined by technocapitalist quantifications of the future and the aggressive militarization and securitization installed to ensure the delivery of those projected futures. The contagion of Drexciya's message, its sounds exploded from emergent forms of European art pop, and its affective relations revolutionary against the State preemption and science-fictional management of futurity, are thus the work of Afrofuturist audio virology as it infects listeners through sonic fiction.

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[331] Drexciya, *Harnessed The Storm* (Tresor Records, 2002).
[332] Kodwo Eshun, "Narratives of a Near Future" (Narratives of a Near Future, HEAD Geneve, December 14, 2017).
[333] Luis Suarez-Villa, *Technocapitalism: A Critical Perspective on Technological Innovation and Corporatism* (Philadelphia: Temple University Press, 2009).

Bass Cartographies and the Exorcism of Dread

Beyond sonic fiction, audio virology also takes hold through frequency vibration itself, as in the rhizomatic diaspora of global bass music cultures. As an example of audio virology on a planetary scale, Goodman suggests that "it is useful to force Davis' dystopic urbanism into confrontation with the modus operandi of pirate media and sound system cultures."[334] To invoke the language of COVID-19, sound system cultures function as affective superspreaders, transducing "pervasive fear and exorcising dread into momentary joy."[335] How are these seemingly paradoxical transductions and exorcisms of affect achieved, and to what end? For Goodman, sound system cultures affect bodies in synesthetic and pansensory dimensions, capable of inducing affects such as fear, dread, excitement and ecstasy through audible sound as well as tactile feeling. Bass in particular, as a simultaneously tactile and audible vibrational force, seizes and affects the body amid the calcification of affect into conscious emotion. As "sensing becomes hearing," the multisensory experience of high amplitude bass frequencies invokes "a whole rhythmanalysis of the affective sensorium under sonic activation"[336] or the contact of sound on the human senses, prior to conscious comprehension of what exactly the sound is. This image of bass frequencies paints "the body as transducer of affective tonality … [wherein] the conscious classification of an affective pitch or vector of feeling into attributable sounds is preempted by amodality,"[337] or the indistinction of pansensory feelings amid their identification, specification and division into distinct senses and feelings. It is by this process that "the sonic encounter does most of its affective work

[334] Goodman, *Sonic Warfare*, 173.
[335] Ibid.
[336] Ibid, 72.
[337] Ibid.

before cognitive appropriation by the sense of audition."[338] While this argument encounters Kane's aforementioned critique that Goodman sidesteps cognitive scientific complications of pre-cognitive vs cognitive comprehension, as well as ignores the prismatic affective filters of audile techniques, bass music nonetheless plays off the evolutionary logic that "a low pitch communicates a larger mass" and as such "a big sound is powerful, dominant, and dangerous."[339] Low pitched sounds at high amplitudes stand to incite alarm in the body as a hard-wired response to the presence of what could sonically be a large predator. The affective work of bass precedes conscious emotion or degrees of fear.

While, in line with Kane's critique, affects can change through additional sensory modes such as sight, which could quickly deduce that there is no giant carnivore in the room, bass and dread in the nomadic sonic warfare of sound system cultures are enacted deliberately. Recalling Goodman's invocation of affective exorcism, booming bass triggers "fear activated deliberately to be transduced and enjoyed in a popular musical context."[340] While musical tastes and sonic dispositions obviously vary between people, the ability of bass to affect the body both psychologically and physiologically testifies to its force as affect, as a fluid intensity of feeling. Bass, as with all other sound frequencies, is preconscious, it *affects* our understanding of the bass music we listen to, but we do not consciously register the way it affects our bodies as it does so. Discussing the unconscious, collective crowd dynamics of bass music cultures, Goodman writes that "the dancehall system simultaneously immerses/attracts and expels/repels, is hard and

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[338] Ibid.
[339] Salter, "What You Hear Is Where You Are," 770.
[340] Goodman, *Sonic Warfare*, 29.

soft, deploying waves of bass, an immense magnet that radiates through the body of the crowd, constructing vectorial force field– not just hear but felt across the collective affective sensorium."[341] The crowd is affected as many bodies and as one body; the dreadful affect of bass as it rattles the skeleton and pounds on the ear drums enacts "the induction, modulation and circulation of moods, feelings and intensities, which [are] felt but, at the same time, [belong] to nobody in particular."[342] Bass instills the same call to attention as that of an alarm, but in a context of sonic seduction and social enjoyment rather than State terrorism– often, in fact, as an escape from the daily trappings of the State's sonic warfare in its military and security forms. Bass functions as "a magnet that radiates through the body of the crowd,"[343] instilling a sense of collectivity through attraction, producing a social, cultural and potentially political unit of sonic affect contagion in the sound system that comprises producers, DJs, listeners and dancers alike. As Eshun illustrates: "Your fear-flight thresholds are screaming, it's like your whole body's turned into this giant series of alarm bells … It's like your entire body would like to vacate … But you can't, so you stay and enjoy it."[344] This collective enjoyment is based around dread, but does not seek to replicate the type of dread induced by contemporary State military or police apparatuses, or the dread professed by white settlers and slaveholders amid the racialized othering of African slaves. Rather, sound system cultures attempt to exorcize the dread induced affectively by the low frequencies of booming bass into joy, by "generating soundtracks to sonically enact the demise of Babylon, mutating the early-twentieth-century concerns of audio futurism (war, noise,

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[341] Ibid, 28.
[342] Thompson and Biddle, "Introduction," 5.
[343] Goodman, *Sonic Warfare*, 28.
[344] Kodwo Eshun, "Abducted by Audio," *Abstract Culture*, Swarm 3, Issue 12 (1997): Ccru, 12-13.

speed and sensation) into the construction of ephemeral, mutant, sonic war machines."[345] As such, the affective transduction of dread through the acoustic material of bass frequencies can be understood as a non-militarized sonic weapon. Bass in the context of sound system cultures is not a weapon leveraged by the State in the interests of stifling civil discontent, protecting private property or pursuing military imperialism. Rather, sound systems are a viral weapon, tending toward popular access to the modulation of affect, more specifically the transduction and exorcism of fear and dread into joy. Furthermore, the sonic guidance of these affective transmissions tends toward the induction of collectivity, social gatherings, political discontent and dancing, as bases of mobilization against the technocapitalist State's attempted monopoly on the contagion of fear through sonic warfare.

This cartography of global bass cultures is rhizomatic insofar as genres and subgenres deterritorialize one another's sonic features and reterritorialize them to new contexts, fictions, rhythms and frequencies. Subgenres sprout and draw lines of flight through sonic innovations and inspirations adapted from a diversity of local music scenes as well as the "prototype or abstract machine"[346] of Jamaican dub and reggae. Against the State's sonic warfare which comprises the weaponization of sound in urban public spaces and desert warzones alike, global sound system cultures derived from Afrodiasporic and Afrofuturist music genres revolve around bass vibrations and pirate media such as sampling to tap into the "basic power of organized vibration … to attract and congreal populations"[347] through the affect contagion of vibrational force. Such genres, founded

[345] Goodman, *Sonic Warfare*, 73.
[346] Ibid, 172.
[347] Ibid.

upon "Jamaican sound system culture as the prototype or abstract machine, a diagram of affective mobilization with bass materialist foundation,"[348] range from UK Grime to Jamaican dancehall, from Brazilian baile funk to dubsteps of all sorts to internet native plugg music. With common roots in Jamaican sound system culture and overlapping sensibilities to polyrhythms and low-end frequencies, these genres represent "a multiplicity of socioeconomic configurations, ethnic specificities, colonial legacies, and complex musical histories"[349] that is coherent within the "rhizomorphic, fractal structure"[350] of Black Atlantic cultural production, yet extends beyond the purview of AfroDiasporic cultural producers alone. These genres are rhizomatic insofar as the lines of flight they draw affect and impinge on one another. One genre cannot emerge without tugging at the ends of other sounds and scenes, implicating, imbricating and pulling one another into a global configuration of bass materialist sound cultures. They are war machines, nomadic and contagious insofar as they facilitate the "exchange of contagious sonic fluids,"[351] samples and synth patches through infinite sharing, reproduction, transmission and modification down to the finest digital microsample. Global bass cultures know no uniformity or conformity to the overcoded industry standards of hermetic, market-ready genre labels, nor to the dichotomy of cultural essentialism and anti-essentialism that seeks to classify and colonize genres and cultural workers into one sonic identity or another, nor to the notion of the 'original song' and its allegiance to copyright law and anti-piracy policies. There can be no conformity because these sound cultures are out of the hands of both the industry and the State. These sounds and

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[348] Ibid, 175.
[349] Ibid, 173.
[350] Gilroy, *The Black Atlantic*, 4.
[351] Goodman, *Sonic Warfare*, 130.

rhythms, genres and scenes are fluid and hydraulic insofar as they do not inherently conform to the rigidities or packaged cultural hybridities of global media industries. They are not directly propagated by the royal science fiction of western multiculturalism that presupposes a master teleology to unite racial groups in the interest of sustaining the consumption patterns and civil obedience to neoliberal nation-State. Rather, these scenes and sounds channel, modulate and intensify the excess and detritus of such political and economic rigidities– poverty, racial othering and political disenfranchisement. They work on the margins of mainstream media royalty, and resist cooptation insofar as when one scene does make it big, ten more creative youth with pirated digital audio workstations and Soundcloud accounts pop up in its place, ready to fashion an alternative scene or subscene of their own.

This is not to blindly valorize the global proliferation of bass cultures and pirate economies as inherently oppositional, liberatory or anarchic. Rather, echoing Eshun's concerns toward the high stakes of speculative futurisms, these sounds and scenes are susceptible and targeted by "preemptive capital" and the "geometry of viral marketing, cool hunting, sonic branding, and journalism's voracious thirst for an angle."[352] In light of the vernacular and nomadic character of this cultural production, as well as their risk of co-optation and collusion, Goodman contends that "these musical war machines are perhaps most accurately conceived as subpolitical."[353] This is not to say they have no political impetus or potential, but that their positionality lays below the threshold of official, discernible, capital 'P' Politics of the State, the sort of political power that orders

[352] Ibid, 194.
[353] Ibid, 175.

LRADs to disperse crowds or coerces popular consent to preemptive military invasions. This subpolitical positionality both provides "a vibrational infrastructure or platform for collectivity"–social collectivity being the basis for political movements, official and unofficial– while also "[confounding] cultural studies' attempt to claim that every quantum of cultural production should be construed as an act of resistance or opposition to capitalism."[354] The cartography of diasporic bass cultures cannot be cordoned to any such ideology or teleology, just as Drexciya's sonic futurity, in one sense, evades utopianism insofar as utopia is an impractical approach to imagining futures born of a predatory past and present. In another sense, however, Drexciya does appeal to a sort of utopianism, insofar as utopias imagine and attempt to realize social realities that exceed and transcend the State control of social, economic and political affairs. What is at stake is instead affective social relations on the collective and vernacular level, the everyday of sonic processes, and the confrontation of speculative fictions with the preemptive power and SF capital that fuel State militarization and securitization. On the nomadic, guerilla end of the sonic warfare continuum, this is achieved through the production and deployment of contagious, even addictive frequencies, vibrations, sonic fictions and rhythms.

Echoes from the Future: Time, Human, and Futurhythmachine

Throughout *More Brilliant Than The Sun*, Eshun makes continual reference to the *Futurhythmachine*, or the use of analog and digital technologies toward the production of sounds characterized by Goodman as comprising a "sophisticated temporality, polyrhythmic instead of unilinear, a cyclical discontinuity in which there is a virtual

[354] Ibid.

coexistence of both the past and the future in the present."[355] The role of the Futurhythmachine is that of a critical intervention between the historicized past and the preempted future, manifesting sonically in the present through audible interventions into linear time. This is a process that extends from sonic fiction, to rhythmanalysis, to the affective impingements of acoustic vibrations on bodies. The Futurhythmachine does not refer to a specific technology or production process, but always follows the imperative "to design, manufacture, fabricate, synthesize, cut, paste and edit a so-called artificial discontinuum"[356] of time. While not limited to any particular product or device, the Futurhythmachine finds one manifestation in the transformation of drum machine or "rhythm synthesizer"[357] technologies into nomadic war machines of sonic power. The primary rhythmic elements of many Afrodiasporic electronic genres, from techno, to house, to jungle, to drill, are often produced from a drum machine or else one of its numerous successors, predecessors, functional equivalents, virtual emulators or digitally ripped sample packs. In many cases, producers will extract drum loops from vinyl records and slice those digitized sound files to desired lengths and purposes; be they individual drum hits, eight-bar percussion loops, or any noise to be rendered distinct from its source material through any variety of sonic effects. This breadth of genres, working from the same materials, upgrading and modulating their frequencies to accommodate evolving tastes, adds a rhythmanalytic inflection to Paul Gilroy's argument that "hip hop was not just the product of … different, though converging, black cultural traditions. The centrality of 'the break' within it, and the subsequent refinement of cutting and mixing techniques through digital sampling ... mean that the aesthetic rules which govern it are

[355] Ibid, 59.
[356] Eshun, *More Brilliant Than The Sun*, -003.
[357] Ibid, 183.

premised on a dialectic of rescuing appropriation and recombination which creates special pleasures and is not limited to the technological complex in which it originated."[358] While the original role of the electronic drum sequencer was ostensibly to reproduce and replace the sounds and rhythmic patterns of acoustic percussion, the sounds we hear from drum machines have no tangible link to their supposed source material–there's no little drum in the machine making noise at the push of a button in real time. And yet, the drum machine has been innovated to reproduce drum sounds and so much more; from chopping samples into original beats to remixing well-known songs for renewed club enjoyment. In each case, the product exceeds the technological complex from which it emerged, pushing onward in a sonic procession toward futurity.

Paul D. Miller and Ken Jordan remind us that "once, every sound had a distinct source ... Audio came from a discrete event; it was tied to a discernible action."[359] In the age of abuse of military-industrial technologies and science-fictional prolepsis into predetermined political futures, however, "networked music challenges this notion by displacing sound from its origin, moving audio freely from one location to another, giving it a presence in and of itself."[360] Electronic sounds are deterritorialized from the material origins of their signal emission, reterritorialized nomadically in the sense that Deleuze and Guattari's nomad war machine distorts and redeploys the State's own codes against itself, rendering the State unrecognizable from its overdetermined origin. In contrast to the overdetermination and predictability of smooth, uninterrupted linear time, what brings the nomadism of electronic rhythm synthesis into relief "is the difference

[358] Gilroy, *The Black Atlantic*, 103-04.
[359] Jordan and Miller, "Freeze Frame," 104.
[360] Ibid.

between a *smooth* (vectorial, projective, or topological) space and a *striated* (metric) space: in the first case 'space is occupied without being counted,' and in the second case 'space is counted in order to be occupied.'" The strum of a guitar resounds seamlessly, linearly through space and time, without the need for computer metrics to mark the travel of its vibrations from the beginning of the strum to its end in silence. Sampled sound proceeds in reverse, beginning with the counting or striation of granular chops and sliced frequencies and then reorganizing those fragments into a novel, original rhythms playing out in non-linear time. The drum machine is employed to chop up samples, isolate the sliced bits, and then reorganize those infinitely choppable and editable components into novel disruptions of the original sample's temporality. Sample chops are "distributed by turbulence across a smooth space"[361] of linear time. The production of non-linear rhythms, wherein the tail end of a drum loop may be shuffled and reversed to lead immediately into its own opening beat, intervenes into the linear flow of time, the procession of a song from 0:00 onward, decoding the original sound into a tool against time itself. This process "[produces] a movement that holds space and simultaneously affects all of its points, instead of being held by space in a local movement from one specified point to another."[362] Sound no longer travels from beginning to end, from one location in time to the next, but as a rhythmic event in itself: "It belongs to a becoming, a gap in chronic time, that sidesteps the present moment to link instead other times and events, nonlinearly."[363] Following Massumi, Ikoniadou writes that the rhythmic event is also "affective, its time nonlinear and its potentiality consistently misunderstood and

[361] Deleuze and Guattari, *A Thousand Plateaus*, 363.
[362] Ibid.
[363] Ikoniadou, *The Rhythmic Event*, 19.

substituted for matter-of-fact actuality."[364] The Futurhythmachine intervenes into the future to bring into relief the construction, and deconstructability, of linear time as it is presented to be factual and objective in historical accounts of the past, as well as the preemptive "envisioning, management, and delivery of reliable futures."[365] The drum machine, which uses infinitely editable and programmable samples as the building blocks of rhythm, allows sounds to be cut-and-pasted beyond the capacities of live human performance as well as the illusory forward-moving 'progress' of linear time.

In line with the Futurhythmachine's intervention and disintegration of linear time as the basis for understanding the origins and travel of sounds, Eshun writes that "the drum-machine has never sounded like drums because it isn't percussion: it's electronic current, synthetic percussion, syncussion."[366] Untethering sound from definite, tangible sources, from the attempt at arborescent, representational mimesis of acoustic instruments, "the Roland 808 rhythm composer opens a new threshold, the programming of posthuman rhythmatics."[367] This threshold of "post-human rhythmatics"[368] links the drum machine's complication of our very perception and temporal comprehension of sound, to the Afrofuturist science-fictional blurrings of linear temporality as well as human-machine distinctions. Eshun writes that "This 'humanly impossible' time, this automatization of rhythm that is rhythmatics"[369] links the Afrofuturist intervention into temporality with the science-fictional understanding of electronic music production as a cyborg process, neither fully human nor fully machine, but a social reality in any case.

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[364] Ibid.
[365] Eshun, "Further Considerations on Afrofuturism," 289.
[366] Eshun, *More Brilliant Than The Sun*, 78.
[367] Ibid, 79.
[368] Ibid.
[369] Ibid.

The threshold of posthuman rhythmatics is at once vibrational, sonic-fictional and of a nonlinear temporality. In the service of Afrofuturist interventions into the future, electronic music blurs the boundaries of sonic fiction and reality, as well as the distinction between the humans and machines who produce it. In accordance with Donna J. Haraway's definition of the cyborg as "a cybernetic organism, a hybrid of machine and organism, a creature of social reality as well as a creature of fiction,"[370] Eshun traces the nomadic use of the drum machine as war machine as "the fictionalizing of frequencies, the sensualization of electricity. The producer has an 808 state of mind which allows a 'personal electronic relationship with all my instruments. 'Cos I have electricity in my body too. When we touch they recognize me and I recognize them."[371] The producer works ideas through the drum machine's touch pads, just as the drum machine works its sounds through the mind of the producer, filtered and conditioned by its own compressor and sampler capacities, effects banks, etcetera. This dynamic recalls Deleuze and Guattari's example of the mutual rhizomatic constitution of the wasp and orchid as they impress and leave traces of one another behind on each other's bodies, revealing that in fact the two belong to the same reproductive apparatus. Likewise, the human and drum machine, or any form of digital rhythm synthesizer technology for that matter, constitute one another through sound, mapping a rhizome of sounds, organs, frequencies, rhythms, vibrations, perceptions and technologies that are inseparable at their ontological core. Affect is not only transmitted and transduced but congealed into vibrational force through the labor of music production. Eshun's description of AfroDiasporic futurism as "a

[370] Donna J. Haraway, "A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century," in *Manifestly Haraway* (Minneapolis: University of Minnesota Press, 2016), 5–90.
[371] Eshun, *More Brilliant Than The Sun*, 125.

'webbed network' of computerhythms, machine mythology and conceptechnics"[372] extends this congealing and transmission of affect from the individual, to the machine, to the collective, to the viral mythologies of sonic fiction and the contagious affective tonalities of acoustic vibrations that spread between bodies. All bodies affect one another, in sum producing a map or cartography of sonic resistances or antiphonies to the State's royal sciences of sonic warfare. When Eshun writes that Sun Ra employed "the Moog to produce a new sonic people,"[373] this new people came to exist in Ra himself, in his audiences, in the technologies and musical traditions from which his sonic process emerge, and in the science-fictional intervention into the predicted, projected and preempted future. These bodies and entities enfold, produce and constitute one another mutually, affecting one another through the use of sound toward pansensory affective transmission, spreading and communicating moods, feelings and intensities between bodies through the production of sonic auras, as well as the audio virology of this affect transmission as it spreads like wildfire throughout communities, nations and the globe, working toward disrupting projected futures.

Toward Ethnofuturisms

In our analysis of Afrofuturism as a proleptic battleground of sonic warfare, I want to take care to note that futurisms, and therefore sonic futurisms, neither begin nor end with Afrofuturism. It is equally important to note that Afrofuturist and other Afrodiasporic sound systems and affective ecologies have functioned as the "prototype or abstract machine"[374] for others, particularly in the realms of audio virology and sonic war

[372] Ibid, -006.
[373] Ibid, 185.
[374] Goodman, *Sonic Warfare*, 175.

machinery. In the introduction to *Ethnofuturismen* (2018)[375], Armen Avanessian and Mahan Moalemi contend that we live in a time of multiple 'ethnofuturisms' "characterized by their reference to regions that often overlap with the contemporary 'conflict zones' of a globality no longer (unilaterally) dominated by the West."[376] These ethnofuturisms, comprising but unlimited by such examples as Sinofuturism and Gulf Futurism, sprout from a question similar to that posed by Octavia E. Butler in 1980: "Why is it that certain determinations given to the future come out of ethnic conditions and regional developments?"[377] Like Afrofuturism, these futurisms are also "concerned with the possibilities for intervention within the dimension of the predictive, the projected, the proleptic, the envisioned, the virtual, the anticipatory and the future conditional."[378] Contexts differ, but across them, Avanessian and Moalemi seek a means of escape from the chronopolitics of industrial, forward moving progress, wherein atrocities of the past are forgotten by power in the interest to moving on to the realization of predatory techno-capitalism as it self-actualizes "through the envisioning, management, and delivery of reliable futures."[379] Against this current, Avanessian and Moalemi ask, "how can we envision a political horizon beyond the hegemonic traditions of historicism [and preemption that] inform the political realities of Europe or North America—and, consequently, much of the rest of the world too?"[380] This is not a question of the authentic 'nature' or 'essence' of any racial, ethnic, or national category. Rather, echoing concerns stipulated by Eshun, Avanessian and Moalemi are concerned with "how

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[375] Armen Avanessian and Mahan Moalemi, "Ethnofuturisms: Findings in Common and Conflicting Futures," in *Ethnofuturismen* (Berlin: Merve Verlag, 2018), 8–39.
[376] Ibid, 9.
[377] Ibid, 8.
[378] Eshun, "Further Considerations on Afrofuturism," 293.
[379] Ibid, 289.
[380] Avanessian and Moalemi, "Ethnofuturisms," 8.

ethnic formations themselves will undergo changes in future modes of social, political, and cultural speciation in the future, while its past formations will still be haunting this future."[381] These ethnofuturisms and their complementary sonic futurisms are stuck in time, in the present, seeking a generative interface with their own future selves, all while State powers and techno-capitalist interests seek to ensure the continued conflict, immiseration and resource extraction of these groups through their labeling and definition by the ghosts of overdetermined colonial codification. As considered by Avanessian and Moalemi, these ethnofuturisms play on the construction of future utopias through the disruption and irruption of the social, political, and economic rhythms that structure and feed the continuation of today's state of affairs. To recapitulate my earlier note on the utopianism of Drexciya, ethnofuturist imaginations of futurity qualify as utopian not because of a romantic desire to produce perfect or ideal future societies, but rather due to their shared ambition to rupture the projected futures of racially, economically and environmentally predatory technocapitalist interests and investments.

Eshun addresses precisely this concern when he confronts the charge that "the prefix of Africa in the term Afrofuturism takes little or no account of the futures produced in and from and by way of the artistic practices of the continent."[382] Eshun traces the critique that the alleged Americacentricity and Anglocentricity of Afrofuturism "attempts to monopolize the global diaspora of blackness … becomes the master term. Even more problematic, many people argue, the conceptualization of blackness is invariant … The problem with it is not the yearning or the desire to imagine a blackness in the future … it

[381] Ibid, 9.
[382] Eshun, "Narratives of a Near Future."

is the presupposition that that blackness will persist in that near future in the same way that it does now."[383] For Eshun, this presupposition only supports the maintenance of "a racial capitalism that allowed black people to survive on the condition of social death," an attempt in fact "to foreclose black futurity."[384] In this regard, Afrofuturism and the movements of Sinofuturism and Gulf Futurism alike face high stakes of regression, complicity and collusion with the predatory tendencies of techno-capitalism and its dichotomy of anti-essentialist multiculturalism wherein all differences are muted into a false, flat unity, and essentialist ethnopluralism wherein diversity is acknowledged, but as dangerous, unstable, in need of hard distinction and separation. These warnings gel with Goodman's hesitance to blindly valorize audio virology in light of the "geometry of viral marketing, cool hunting, sonic branding, and journalism's voracious thirst for an angle."[385] These warnings also reflect Eshun's own charge of twentieth century white British music journalism as submitting the potentials of Afrofuturist sonic warfare to "a *futureshock absorber*,"[386] an unwillingness to hear speculative theoretical arguments in the presence of black music that stems from the attitude that "too much speculation kills 'dance music', by 'intellectualizing' it to death."[387] Standing between ethnofuturisms and their proleptic interventions, therefore, is a continuing confrontation with the techno-capitalist present. For Avanessian and Moalemi, what is "sought after is a vision of the future that lies between the dissolution of all differences and its inverted double, the ideology of preserving authentic identities."[388] In this light, the content, materials, tactics and specifications of ethnofuturist preprogrammings are of the essence, as is a

[383] Ibid.
[384] Ibid.
[385] Goodman, *Sonic Warfare*, 194.
[386] Eshun, *More Brilliant Than The Sun*, -006.
[387] Ibid.
[388] Avanessian and Moalemi, "Ethnofuturisms," 9.

vigilant and continual evasion of essentialist and anti-essentialist teleologies alike, following Paul Gilroy's formulation of the Black Atlantic.[389] What is projected or rejected in futurist musics, and what this looks, sounds, and feels like, its rhythms and grooves, its affective tonalities and technological compositions and transmissions must not only be imagined but continually reimagined, fluid so as to move through, survive and trouble the rigidities of State power.

[389] Gilroy, *The Black Atlantic*, 99.

Section VI: The Nomadic Sonic Warfare of Fatima Al Qadiri

Amid Technocapitalism and Forever War

Throughout Steve Goodman's analysis, among the most globally contagious means by which sonic warfare is waged by citizen-subject cultural workers is via the Afrofuturist ethical concern "with the possibilities for intervention within the dimension of the predictive … the virtual, the anticipatory and the future conditional"[390] powers of the State and its supporting economic apparatus of technocapitalism. Writing in 2009, Luis Suarez-Villa defines technocapitalism as "a new form of capitalism that is heavily grounded on corporate power and its exploitation of technological creativity … Corporate power and profit inevitably depend on the commodification of creativity through research regimes that must generate new inventions and innovations."[391] In this definition, the preemptive "research regimes" of technocapitalism can be understood to feed from the fictional reserves of Mark Fisher's SF capital, defined by Kodwo Eshun as "the synergy, the positive feedback between future-oriented media and capital."[392] In this respect, we can extrapolate Eshun's claim that "within an economy that runs on SF capital and market futurism, Africa is always the zone of the absolute dystopia"[393] to the prescribed and projected futures of the Middle East. In *Covering Islam*, Edward Said describes how from the American locus of preemptive power, in the aftermath of the 1979 Iranian Revolution, "discussion of the future was constrained by the Reagan administration's declared war on terrorism."[394] The Reagan administration's war on terrorism, inspired as

[390] Eshun, "Further Considerations on Afrofuturism," 293.
[391] Suarez-Villa, *Technocapitalism*, 3.
[392] Eshun, *More Brilliant Than The Sun*, 290.
[393] Ibid, 292.
[394] Said, *Covering Islam*, xxi.

a preemptive geopolitical reaction to the Iranian Revolution, was one conceived and waged on its own terms, creative in its ablility to shift shapes, objects and rationales based on an equally unknowable and manipulable definition of the terrorist threat. Reagan's war on terrorism relied on the potential and unknowability of the terrorist threat, clicking with Brian Massumi's analysis that the potential enemy himself "is … unspecifiable. It might come from without, or rise up unexpectedly from within."[395] As Reagan's war on terrorism evolved terminologically into George W. Bush's War on Terror in the wake of 9/11, and later into the post 9/11 currency of the jaded "forever wars,"[396] the projected and proleptic futurities of the Middle East alike have become inextricably bound with images of desert(ed) landscapes of war torn realities, the rubbled architecture and smoke-filled skies of preemptive airstrikes, and the restless ghosts of civilian lives lost to the region's allegedly endless conflicts.

Throughout the works of Kuwaiti electronic musician Fatima Al Qadiri, critical interventions into State-sanctioned technocapitalist projections of Gulf futurity and engagements with the frameworks of preemptive power and hyperreality are near constants. These interferences are leveraged through the undergirding vocabulary of contemporary geopolitics, characterized by globalized discourses of sovereignty, power, warfare, identity, representation, and culture. Among Al Qadiri's works, *Asiatisch* (2014)[397] and *Genre-Specific Xperience* (2015)[398] tend to play on the capitalist construction of essentialist cultural paradigms and categories of race, ethnicity and genre,

[395] Massumi, "The Primacy of Preemption," 9.
[396] Sterman, "Endless War."
[397] Fatima Al Qadiri, *Asiatisch* (Hyperdub, 2014).
[398] Fatima Al Qadiri, *Genre Specific Xperience* (UNO, 2011).

to the point of foregrounding their artificial substance and hyperreal construction. In contrast, the *Shaneera* EP (2017)[399] and *Medieval Femme* (2021)[400] interject in such categories through critiques of western discourses of queerness and feminism in the Middle East, venturing to fashion "a celebration of regional queer influences" unspoken by western and Middle Eastern State powers and composing "a suite inspired by the classical poems of Arab women"[401] marginalized from western perceptions of Muslim women and global histories of Islamic classical literature alike.

The case studies of this paper will focus on two of Al Qadiri's other works, the *Desert Strike* EP (2012)[402] and *Brute* LP (2016)[403], inspired by experiences as a child amid Saddam Hussein's invasion of Kuwait and as a college student during the United States government's martial law crackdown on the 1999 IMF-World Bank protests in Washington, D.C.. On these projects, Al Qadiri's sonic processes are colored by understandings of the hyperreal aestheticization of warfare in the Middle East and the criminalization and policing of protest in the United States, respectively. Deriving from futurist aesthetics, Al Qadiri's primary futurologic configurations on these projects tend toward Afrofuturism, Gulf Futurism, and Sonic Futurism as elaborated by Kodwo Eshun. Taken independently or together, *Desert Strike* and *Brute* interject sonically into the hyperreal aestheticization of warfare andy the militarized criminalization of protest as critical aesthetic fronts in a guerilla sonic warfare of cultural workers against the State. Both of these projects deal with and produce affects of anticipation, dread and fear in

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[399] Fatima Al Qadiri, *Shaneera* (Hyperdub, 2017).
[400] Fatima Al Qadiri, *Medieval Femme* (Hyperdub, 2021).
[401] Al Qadiri, *Medieval Femme*.
[402] Fatima Al Qadiri, *Desert Strike* (Fade To Mind, 2012).
[403] Fatima Al Qadiri, *Brute* (Hyperdub, 2016).

listeners. This is achieved through a range of sonic techniques, including the abuse of military-industrial sound technologies, the production of hyperreal sounds that blur the lines of reality and simulation, in contrast the Futurhythmachinic manipulation of the rhythm synthesizer toward the production of humanly impossible sounds, and the atmospheric reproduction of a sonic ecology of fear. Between Al Qadiri's political positionality and affective sonic processes, *Desert Strike* and *Brute* figure into a larger, global nomadic war machine of sonic warfare that works to decode and unravel the overdetermined militarization and securitization of life by the State.

Hyperreality and Gulf Futurism

Before digging into the music, some theoretical background that will help integrate Al Qadiri's works and their historical backgrounds into the framework of Steve Goodman's formulation of sonic warfare is in order. Firstly, hyperreality as coined by Jean Baudrillard in *Simulacra and Simulation* (1991) and applied in *The Gulf War Did Not Take Place* (1995). Baudrillard defines hyperreality as "the generation by models of a real without origin or reality,"[404] in other words, the disintegration of the difference between reality and simulations modeled through discourses and technologies. In the past, a map drawn up by cartographers was based first and foremost on the realities of the terrain, prior to their discursive inscription and definition onto the visual aid of a map. In the age of hyperrealities, "the territory no longer precedes the map, nor does it survive it."[405] Rather, it is the hyperreal, modeled representation of reality that takes precedence and 'maps' meanings onto reality, meanings that only necessarily exist as true within the

[404] Jean Baudrillard, *Simulacra and Simulation*, 1.
[405] Ibid.

scope of its own artifice. Within hyperreal models of the real, simulation and simulacra supplant reality as models or maps of truth and meaning. Hyperreal models may consist of computer simulations, action news broadcasts that claim to deliver 'the Truth', reality television programs, or immersive commercial theme parks such as Disneyland, which Baudrillard analyzes in detail. A simulation is more total a representation than a mere image or appearance insofar as "it has no relation to any reality whatsoever: it is its own pure simulacrum."[406] The simulacrum approaches and understands itself as a totality, a universal whole that can be occupied, observed and traversed just as reality can be. Simulacra operate in the guise of reality itself, blurring the distinction between the virtual and the real through the overdetermined, coded simulation of a representation of reality. It is in this sense that "simulation envelops the whole edifice of representation itself as a simulacrum."[407] Representational images are absorbed as the language or landscape of the hyperreal, becoming a map of static, prescribed and ideological meanings through which reality is to be filtered and understood. In *The Gulf War Did Not Take Place*, Baudrillard applies the concepts of simulation and the hyperreal to the allied invasion of Kuwait. Introducing Baudrillard's work, Paul Patton relieves the fact that "technological simulacra neither displace nor deter the violent reality of war. They have become an integral part of its operational procedures. Virtual environments are now incorporated into operational warplanes, filtering the real scene and presenting aircrew with a more readable world."[408] In the context of warfare, hyperreality disintegrates distinction between the actual and the virtual in the command of mass casualty events. This process

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[406] Ibid, 6.
[407] Ibid.
[408] Paul Patton, "Introduction," in *The Gulf War Did Not Take Place* by Jean Baudrillard, trans. Paul Patton (Bloomington: Indiana University Press, 1995), 4.

has proliferated the use of drone technologies by which missiles can be launched and guided by joysticks and birds-eye satellite cameras, administering actual death through the virtual simulacra of a flight simulator. In popular media, this process has even inflected the traditional flows of the military-industrial-entertainment complex toward the innovational impulses of technocapitalism and the military-industrial preprogrammings of SF capital. Nowadays, military video game franchises such as *Call of Duty* envision near-futuristic, science-fictional simulations of 'modern warfare', blurring the lines between the realities of contemporary war technologies and the virtual killing machines of years soon to come.

From this point, I will approach the concept of Gulf Futurism as coined by Al Qadiri herself alongside Qatari American artist Sophia Al Maria, and later theorized by Armen Avanessian and Mohan Moalemi. In the Introduction to *Ethnofuturismen* (2018), Avanessian and Moalemi discuss Gulf Futurism as a futurism that proceeds from the hyperreal simulations of Baudrillard's anticipation. Beyond the simulation of warfare alone, Al Qadiri, Al Maria, Avanessian and Moalemi extend the hyperrealities of Gulf Futurism to the technocapitalist beautification and luxury development of the region in the interests of attracting international investments that might sustain Gulf economies beyond the limited lifespan of oil resources. On the daily scale of Gulf Futurism, "teenage life revolves around the mall, video games and satellite TV." On the wider social scale, Gulf Futurism is characterized by so-called paradoxical leaps into technocapitalist futurity mediated by conservative gender roles that relegated certain social freedoms of women such as Al Qadiri and Al Maria to the domestic and the

clandestine. Karen Orton accounts that "Al-Maria remembers sneaking into the mejus, the men's side of the house, once everyone was asleep, and spending long nights playing video games and watching global satellite TV."[409] The shopping mall served as the ubiquitous "location for everything from covert meetings between the opposite sex to women's exercise-routines."[410] Drawing on Al Qadiri and Al Maria's interview on Gulf Futurism with Karen Orton[411], Avanessian and Moalemi observe that "in middle of the 'consumer-culture robot desert' of the Gulf region in the Middle East, Baudrillard's prophecies seem to shape all that is left of reality per se."[412] Beneath the Gulf's luxurious technocapitalist facade, wherein "entire cities are as if directly pouring out of the virtual environment of 3D modeling,"[413] there exist multiple underbellies, classed and gendered, akin to those which characterize the AfroDiasporic experiences of forced migration and slave labor in the Black Atlantic. For Avanessian and Moalemi, the "less glossy underbelly of the same hyperreality … is populated by those who are forced to compensate for the historical gap and facilitate its stitched-up condition. Gravitating to the Gulf from across the globe are the precarious bodies of imported labourers who fall victim to the tyrannies of time travel, whose bodies get lethally stretched across the time zones and historical periods they are moved through."[414] Beneath every Gulf skyscraper lay mounds of precarious migrant labor and gendered sexual repression that coagulate into an underbelly, a negative image of capitalist progress akin to that of the Black Atlantic, as well as to those rubbled unberbellies of the 'forever wars' of American

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[409] Karen Orton, Fatima Al Qadiri, and Sophia Al-Maria, "The Desert of the Unreal," *Dazed*, 2012, https://www.dazeddigital.com/artsandculture/article/15040/1/the-desert-of-the-unreal.
[410] Ibid.
[411] Ibid.
[412] Avanessian and Moalemi, "Ethnofuturisms," 12.
[413] Ibid.
[414] Ibid, 13.

imperialism. This formulation of Gulf Futurism brings to attention a similar warning for the postcolonial era to Eshun's contention that "today … the powerful employ futurists and draw power from the futures they endorse, thereby condemning the disempowered to live in the past."[415] In the case of Gulf Futurism in particular, future realities are bought, sold and actualized in the present through hyperreal simulation projects that do not include the immiseration of condemned laborers or repressed genders as even an image within its projected futures. Echoing Avanessian and Moalemi's principle of Gulf Futurism, that "an imagined or projected future already contains something of its own realization, a realized future, which is the reality of *future orientation*,"[416] the simulation and simulacra of Gulf Futurism proceeds beyond the futuristic but static representational Hollywood images of protracted African immiseration discussed by Eshun. Gulf Futurist capital transcends SF capital in that it actualizes the future orientation of science fictional technologies and technocapitalist innovations in the present, as an already realized future.

Listening Against the State

Between the sounds of Al Qadiri's sonic warfare on *Desert Strike* and *Brute*, I identify constructions upon Steve Goodman's sonic transmission of affect theorized in *Sonic Warfare*, Kodwo Eshun's elaborations on Afrofuturist sonic fictions, history and process throughout *More Brilliant Than The Sun*, Jean Baudrillard's aesthetic of hyperreality, as well as Al Qadiri's own development of Gulf Futurism as developed alongside Sophia al-Maria, further considered by Arman Avanessian and Mahan Moalemi. As I embark on this case study, I want to take care to recognize my own audile technique in this process.

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[415] Eshun, "Further Considerations on Afrofuturism," 289.
[416] Avanessian and Moalemi, "Ethnofuturisms," 14.

Developing Marcel Mauss' notion of "techniques of the body," Brain Kane posits that "the body, 'man's first and most natural technical object,' is trained and cultivated into the performance of actions"[417] such as listening. The audile technique through which I listen to and analyze Al Qadiri's music in this paper is trained and inflected by the particular framework of works I have reviewed in my literature review. This case study is a work of analytical speculation on the sonic processes, affective structures and political frameworks of Al Qadiri's music as an extension of Steve Goodman's concept of *Sonic Warfare*.

To flesh out my speculative and audile framework, in this analysis I relate Al Qadiri's *Desert Strike* and *Brute* to the two heads of the State as described by Gilles Deleuze and Felix Guattari. Deleuze and Guattari differentiate the military and police functions of the State, writing that "political sovereignty, or domination, has two heads: the magician-king and the jurist-priest. Rex and flamen, raj and Brahman, Romulus and Numa, Varuna and Mitra, the despot and the legislator, the binder and the organizer."[418] While these terms are posed in terms of categorical opposition, "their opposition is only relative; they function as a pair, in alternation,"[419] mutually constituting together the political sovereignty of the State. Dividing the State apparatuses for warfare into military and police regimens works not only to differentiate two different powers of the State to use violence, but also to demonstrate that war is a flow greater than the State. War exceeds the State's capacities to channel it through the roles of despot and legislator alone. In this regard, Deleuze and Guattari figure that "it is not enough to affirm that the war machine

[417] Kane, "Sound Studies without Auditory Culture," 8.
[418] Deleuze and Guattari, *A Thousand Plateaus*, 351.
[419] Ibid.

is external to the [State] apparatus. It is necessary to reach the point of conceiving the war machine as itself a pure form of exteriority, whereas the State apparatus constitutes the form of interiority we habitually take as a model."[420] In this analysis, warfare as we know it in its military and police instantiations are only two particular expressions and deployments of war enacted by the State. War itself is a flow exterior to the State, capable of hijacking, deterritorialization and abuse by non-State or nomadic forces whose activities seek to unravel or decode the State's claims to political sovereignty and universal legitimacy. This is achieved through the leveraging of tools or weapons, which can be taken up by the State and nomadic oppositional forces alike. For Deleuze and Guattari, the political assemblage to which a given tool or weapon belongs owes itself to the way in which it is organized and disciplined. For example, "the State apparatus tends to bring uniformity to the regimes, by disciplining its armies, by making work a fundamental unit, in other words, by imposing its own traits. But it is not impossible for weapons and tools, if they are taken up by new assemblages of metamorphosis, to enter other relations of alliance. The man of war may at times form peasant or worker alliances, but it is more frequent for a worker, industrial or agricultural, to reinvent a war machine."[421] In this sense, music, sound systems and affect as the building blocks of Goodman's formulation of sonic warfare are fungible tools that can be deployed, deterritorialized and reterritorialized into new political tendencies and configurations by their users. This principle of Deleuze and Guattari's war machine, its ability to be shaped and reshaped in the hands of its politically heterogeneous users, is what lends power to non-State actors faced with the State's massive wealth, force and legal

[420] Ibid, 354.
[421] Ibid, 402.

overdeterminations. Applied to the sonic preprogramming of projected futures, the work of State SF capital and Afrofuturist interventions alike, Deleuze and Guattari's formulation of the war machine enters the future into a matrix of asymmetrical warfare. I contend that *Desert Strike* and *Brute* stage a sonic exorcism of the despotic and legislative forces of State warfare, respectively. By channeling, reproducing and exorcizing the feelings of alienation and ecologies of dread affected by the State militarization and policing of sound affect, Al Qadiri deterritorializes these affect transmission to the realms of sonic fiction and futurism. While the political effects of such an exorcism are indeterminate, *Desert Strike* and *Brute* nonetheless affect the fear, anxiety and dread of their targeted subjects, modulated toward a listening context of political critique and futurist speculation.

"Ghost Raid" and *Desert Strike* (2012)

On her 2012 EP *Desert Strike*, Al Qadiri deploys a sonic war machine that brings into relief the inhuman military technologies that have come to define the modern military conflicts and SF capitalist configurations of the Middle East. Fittingly, *Desert Strike* is titled after the 1992 video game *Desert Strike: Return to the Gulf*, an "Operation Desert Storm-themed"[422] shoot-em-up in which players operate "an AH-64 Apache helicopter with loads of weapons to play around with, on four exciting battlefields."[423] Players simulate the Apache's position of death from above, occupying a skybound isometric perspective that captures the entirety of the unnamed desert landscape that comprises the

[422] Fatima Al Qadiri, "Video: Fatima al Qadiri, 'Ghost Raid,'" *The Fader*, 2013, https://www.thefader.com/2013/02/01/video-fatima-al-qadiri-ghost-raid.
[423] Laetone Gravolin, "Desert Strike: Return to the Gulf," *Australian Commodore & Amiga Review*, November 1993, http://amr.abime.net/review_4749.

attack helicopter's target practice. Proceeding from the omniscient birds-eye view of a military simulation, gamers anonymously simulate the western attack missions of Operation Desert Storm. Except this is not Desert Storm but Desert Strike, a fictional substitution for the actual event. The confusion stands as classically hyperrealistic, reminiscent of Gulf Futurism in its conceptualization of "an imagined or projected future already contains something of its own realization"–namely, the military invasion of Kuwait by Saddam Hussein and subsequent intervention by American-led forces. Similarly, each title on the *Desert Strike* EP–"Ghost Raid", "Oil Well", "War Games", "Desert Strike" and "Hydra"[424]– intimates toward a Middle Eastern war anticipated, strategized, designed, and simulated, but not yet actually fought. In this sense, *Desert Strike* functions in part as a sonic fictional account of a war that has been anticipated but not yet actually fought, a sonic war that weaponizes rhythm and frequency as the aesthetic substitutes for bullets and bombs. In another sense, *Desert Strike* is a transcription of Al Qadiri's lived reality of Saddam Hussein's 1990 invasion of Kuwait, "an audio memoir of that time"[425] that adapts to the sonic processes and speculative futurisms of Afrofuturist and Gulf Futurist dialects. I will focus in particular on the song "Ghost Raid," described by Al Qadiri as "about the Lockheed F-117 Nighthawk, also known as the 'Ghost of Baghdad' by Arab troops. I was nine when I met a kid in the street during the invasion of Kuwait who asked if I had heard of 'The Ghost.' I said, 'What the hell is that?' He replied, 'An invisible plane.' I thought, Woah... The American military is so technically advanced, they're using evil spirit (djinn) technology to power their aircraft! I daydreamed about the plane, and its terrifying spiritual power. But then I

[424] Al Qadiri, *Desert Strike*.
[425] Orton, Al Qadiri, and Al-Maria, "The Desert of the Unreal."

played *Desert Strike: Return to the Gulf* a year later and realized truth, ie. marketing military video games to children, is more insidious and fantastical (in my case) than fiction."[426] Throughout "Ghost Raid," Al Qadiri fashions sonic processes of science fictional alienation, military-industrial-entertainment technologies and hyperreal computer generation, to the effect of emulating the haunting dread of stealth bombers, eliciting the stuttering barrages of artillery fire, and producing an overall sonic atmosphere of fear, alienation and anxiety that works to exorcise the sonic ecology of fear discussed by Steve Goodman throughout *Sonic Warfare*.

The first track off *Desert Strike*, "Ghost Raid" begins by hitting the listener immediately with the bang of a sampled gunshot. This sharp noise interpellates the listener starkly into a mode of sonic warfare, taking one off guard as an unanticipated threat made reality. Before the listener can react, the inciting gunshot ushers in a rhythmic melody of synthesized vocal hits. Reminiscent of a vocoder in its synthetic reproduction of the human voice, the choral soundfont dances sporadically up and down harmonic scales, teasing at the extremities of human vocal ranges with inhuman ease. Invariably perfect pitch and the melodic dexterity of a machine make it as if the physical acoustic properties of human vocal cords mean nothing to the production and pitch modulation of vocalized sound. Each digital breath resounds identically in timbre, note length, attack and release, affecting the melody with a sense of pre-programmed certainty and sacred geometry alike. We know in advance the length, amplitude and timbre of every incoming note. In *Gramophone, Film, Typewriter* (1999), Friedrich Kittler outlines the origins of the vocoder in World War II. Invented by Bell Laboratories's Claude Shannon and the British

[426] Al Qadiri, "Ghost Raid."

Secret Service's Alan Turing, the vocoder was designed to sonically encrypt the classified voice messages traveling across the Atlantic Ocean between allied commanders Winston Churchill and Franklin D. Roosevelt. Kittler explains that the original vocoder functioned by "[encoding] any given data stream *A* with the envelope curves of another sound sequence *B*,"[427] effectively modulating the signal output of a given sound through the frequency contours of another carrier sound. Mutually affecting one another in real time, "the sum signal at the exit (of the vocoder) appears as an instrumental sound encoded by a voice (vox)."[428] At the end of this mutual synthesis of human- and machine-made audio signals, "the paradoxical result is that one and the same controls one and the same: one acoustics controls the other."[429] The vocal input and carrier synthesizer modulate one another simultaneously, producing a mutant, part-human/part-machine or cyborg sonic process. Sonically, the vocoder affects what Kittler refers to as a "primal sound without a name, a music without notation, a sound even more strange than any incantation for the dead for which the skull could have been used."[430] The vocoded voice is distinctly inhuman, yet useful for futurist incantation, for song on previously humanly impossible sonic registers. The vocal sound is machinic and synthetic in the frigidity of its timbre and the perfect mechanical correspondence of its pitch to each note of the melodic program. Affecting a feeling of artifice and inhumanity through this cyborg sound, Goodman chronicles how the vocoder nonetheless "[helped] generate a new kind of infectious orality that would prove inspirational to German Electronische Musik and catalyze a vector that runs from Wendy Carlos, through Kraftwerk, Laurie Anderson,

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[427] Kittler, *Gramophone, Film, Typewriter*, 48.
[428] Ibid.
[429] Ibid, 49.
[430] Ibid, 44-5.

Herbie Hancock, Africa Baambatta, Zapp, right up to Tupac and beyond. In fact, in the hands of Afrofuturist musics, the vocoder became a means for upgrading one of the few possessions transportable during forced migration: oral culture. The vocoder synthesizes the voices of the wandering ghosts made homeless at the origins of modernity."[431] Through Kittler and Goodman, Al Qadiri's deployment of the vocal synthesizer is legible as exemplary "of where popular entertainment media technologies productively 'abuse' the technologies of war."[432] The vocoder is a machinic sound identifiable as a representation of human voice, employed historically in a variety of sonic futurist and popular cultural orientations and configurations. Whereas in the Afrofuturist context, the vocoder affords augmentation of Black oral culture toward the production of sonic fictions and futurologies, for Al Qadiri, the vocoder sound affects a cold, mechanical regimentation. It is the voice of the war machine speaking through military technology, manipulated and abused by Al Qadiri to affect a stark awareness of the cold inhumanity of modern war machinery in listeners.

Eshun delivers an alternate yet equally illustrative account of the vocoder's history and affective potentials. He writes that "just as machine vision runs from infrared to ultraviolet, so the vocoder spectrum runs from hyperbabble to ultraslow. Initially developed as German military technology for camouflaging transmissions, the vocoder cuts out vocal frequencies, petrifying the voice into a robotik current, an antagonistically nonhuman Voice of Doom."[433] In this account, the vocoder's inhuman approach to representing acoustic humanity melds the realms of sonic fiction and science fiction by

[431] Goodman, *Sonic Warfare*, 166.
[432] Ibid, 165.
[433] Eshun, *More Brilliant Than The Sun*, 80.

achieving the science fictional futurology of the cyborg sonically in the present through the abuse of adapted military technologies. From the opening notes of "Ghost Raid," we can hear Al Qadiri's transformation of military technology and war machinery into a sonic fiction about war. Melding the roles of musician and machine in a sonic fictional commentary on warfare, Al Qadiri sounds a "schizophonic mutation of the voice that intensified its contagiousness, helping generate a new kind of infectious orality."[434] This infectious orality comprises the synthesized production of inhuman vocalizations into a melody that can be decoded nonetheless as a mechanical attempt to reconstruct the human voice through "paralinguistic cues that include volume, pitch, and intonation."[435] Invariable, the synthetically identical volume, pitch and intonation of each note affects a sense of inhuman synchronization and syncopation, a mechanically pitch perfect execution of the melodic program. Echoing this inhuman approach to the human voice, Eshun describes how the paralinguistic sonic qualities of the vocoder extend toward the "extremes of nonhuman high/low pitch. At the high end, the Electro voice is a malicious gremlin. At the low end, it's the Voice of Doom issuing the death command."[436] Al Qadiri orchestrates a melody that traverses this affective range of malice and danger with mechanical ease while simultaneously adhering to the angelic timbre of a choral singer. Together, these sonic affects meld the God-like omniscience of the Lockheed stealth bomber with the technological grace of the death commands at its disposal. Vocoding the timbre of a choral falsetto through the cold, calculated wavelengths of a digital carrier synthesizer, Al Qadiri's vocal melody works to meld the roles of human, God and machine, synthesizing unmanned omniscience and military-industrial pyrotechnics to

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[434] Goodman, *Sonic Warfare*, 166.
[435] Salter, "What You Hear Is Where You Are," 771.
[436] Eshun, *More Brilliant Than The Sun*, 80.

smite political listeners on the ground. The angelic din of the vocal synth nods further to Eshun's elaborations on the ability of the vocal synthesizer to play the role of sonic fictional characters made audible through machine technology, to "turn the voice into a synthesizer … [The vocoder] lets you talk with cartoons, become cartoon, become animal, become supercomputer."[437] In "Ghost Raid," the synthesized vocal track reflects the cold indifference to death and sleek technological capability for destruction of the Lockheed F-177 Nighthawk stealth bomber, all in the guise of the human voice. In the same stroke, the strict syncopation, unwavering adherence to harmonic scales, and repetitive rhythmic patterning of the vocal melody intimates toward the preprogrammed preemption of a stealth bombing or drone strike. These acts of war are praised for the irreducibility of their violence to human combat, recognized for their 'humanity' of avoiding hand-to-hand bloodshed through the substitute of indifferent death from above. Fueled by the affective fact of fear for the potential threats on the ground below, the virtual violence of the war simulation is made actual by the stealth bomber's preemptive rain of hellfire. Al Qadiri affects a similar sense of preemption through the vocal synthesizer featured on "Ghost Raid". The vocal synth sings robotically to the tune of a preprogrammed melody, comprising voices without heads that call the preemption and dread of modern warfare into sonic being.

Further affecting a feeling of sonic dread, "Ghost Raid"'s inciting gunshot and vocal pattern are followed by the gradual swelling and faltering of a brass-like synthetic drone. This resounding metallic pad synthesizer swells menacingly below the stilted melody of headless acousmatic voices. The brassy growl ebbs and flows unpredictably in timbre,

[437] Ibid.

pitch and intensity through the modulated cutoff envelope of a low pass filter. Crucially, the association of this sound with brass contributes to the song's subversion of military aesthetics and affects. The pad's brassy timbre imbues the sound with the powerful feel of a military band, while its distinct synthetic production installs the sound additionally with a metallic materiality akin to the bomb-strapped hull of the Lockheed F-177 Nighthawk. Discussing the affective impact of military bands on listeners, their sonic command of fear and display of power, Linda Ruth-Salter observes that "military bands have loud instruments: horns of all sizes and timbre, drums of various types. Such instruments contribute to making the sound loud and attention-getting. Listeners' hormones are stirred. They are assured that military might matches sonic might."[438] This confluence of military influences and affects synthesizes a decidedly military-industrial sound that rises with the elusive stealth of a covert, invisible threat, producing a thick ambience of dread in the wake of each swell. The synth swells at intervals regular enough to inculcate a false sense of security within the calm depths of the low-pass filter's hum. At the trough of every such dip in intensity, however, Al Qadiri modulates the filter's cutoff frequency quickly enough to catch the listener off guard. Before one knows it, the synth swells to growl its most resounding midrange tonalities. Such strikes occur whenever the musician behind the filter determines the moment is right. The effects of filtration, the "reinforcing or weakening of specific frequencies of a sound,"[439] take on additional affective potentials insofar as "it only takes filtration of a sound to make a listener feel that there is something strange or modified aout a particular listening experience."[440] In filtering the brassy drone and modulating the affected frequencies of this filtration by continually

[438] Salter, "What You Hear Is Where You Are," 771.
[439] Augoyard and Torgue, *Sonic Experience*, 48.
[440] Ibid, 52.

manipulating the cutoff threshold of frequencies affected by the filter, Al Qadiri assumes the role of a manipulator or mastermind behind the rawest, harshest frequencies disguised by the filter's cloaking effect. The producer behind the filter plays a similar role to the co-pilot manning the bomb bay doors of the Lockheed stealth bomber. In turn, the listener plays the role of the target, forced to listen in uneasy anticipation for the moment the synthesizer's sonic cacophony threatens to strike next.

The Lockheed F-117 Nighthawk stealth bomber is arguably most powerful in its ghostly invisivility, its spectral potential to materialize and strike at any moment without giving the targeted body a clue before it is too late. Likewise, the metallic swell rises and subsides elusively through the modulation of the synthesizer's cutoff filter which regulates the sound's peak frequency output. The swells begin as slow, subtle turns of the cutoff envelope, affecting deep bellows in the synthesizer. Over time, these modulations graduate in amplitude to allow more of the harsh brass sound to seep through the low-pass filter, releasing latent midrange and high-end frequencies previously held at bay. The rise and fall of these swells at uncertain intervals, oscillating along a mountainous range of peak frequency cutoffs, affects feelings of stealth, surprise and the dread of an unknown potential threat. Listeners lay in wait with the partial knowledge that the brassy pad may rise to strike at any moment, but one cannot know when for sure until it is too late. Al Qadiri forces her audience to listen preemptively. The synthesizer's elusive potential for sudden, unstoppable violence instills an anticipatory sense of dread. The sound's spectral character, its ability to ebb and flow from latent, inaudibly filtered frequencies to a sharp brassy growl in a matter of seconds, evokes Eshun's notion of

electronic destratification. Eshun writes that "electronic effects are destratifiers because they dissolve the organization of the instrument, liquefy the stratification of sound."[441] The brass growl is liquified, destratified insofar as it knows no static state or constant intensity. This variability appears to contradict the conventional definition of the sonic drone as "a constant layer of stable pitch in a sound ensemble with no noticeable variation in intensity."[442] According to Ramon Bloomberg, however, the French word for drone, *bourdon*, "can refer to the growling of a bear, or to the sound of a bagpipe, the bass droning sound that supports a melody, or indeed … anything that points to the ground and serves as a support."[443] If drone connotes grounding, then Al Qadiri's modulation of the brassy drone's resonant tones is a destabilization of this groundedness, a sonic shattering of the earth beneath our feet affected by the combustion of frequencies. As such, the modulated filtration of the brassy drone that haunts and looms over the proceeding rhythms and melodies of "Ghost Raid" follows Eshun's assertion that amid the destratification of electronic sounds, "the distinction between real music and soundeffects collapses, in a stream of sonic matter that crosses from the liquid state of piano sustain into the gas state of mute horn vapourdrift."[444] Al Qadiri's drone is state-shifting, unstable and warning of impending detonation. It collapses the distinction between music and sound, producing an affective tonality of potential threat. Further, as Eshun distinguishes, the warbling synthesizer collapses the distinction of music and sound effect, imbuing the affective tonality of threat with a sense of thickness, ubiquity and ambience.

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[441] Eshun, *More Brilliant Than The Sun*, 7.
[442] Augoyard and Torgue, *Sonic Experience*, 40.
[443] Ramon Bloomberg, "Dancing to a Tune: The Drone as Political and Historical Assamblage," ed. Rob Coley and Dean Lockwood, *Culture Machine* 16 (December 13, 2015), https://culturemachine.net/vol-16-drone-cultures/dancing-to-a-tune/.
[444] Eshun, *More Brilliant Than The Sun*, 7.

In this regard it is crucial to more closely examine the affective qualities of the anticipatory listening installed by Al Qadiri's warbling brass drone. Regarding Jacques Attali's futurological approach to music as a discursive precursor to the future of political economy, Goodman raises "the affective issue of hearing's particular relationship to anticipation and dread."[445] Hearing and sound, for Goodman, are "often understood as generally having a privileged role in the production and modulation of fear, activating instinctive responses, triggering an evolutionary functional nervousness."[446] Al Qadiri's growling drone affects such dreadful feelings in part through its schizophonia, a condition induced "when industrial communications split sound from its sources, 'a fearful medium because we cannot see who or what produces the sound: an invisible excitement for the nerves.'"[447] Although listeners understand Al Qadiri to be the producer of the sounds they hear, the synthetically produced sounds nonetheless possess an anonymous sonic materiality. One cannot *see* who or what produces the growling drone, affecting a sense of anticipatory dread, a sense that whatever is growling has no discernible human or machine source, confusing our distinction between the two and bracing us for the full impact of the cyborg military soundscape to come. In Goodman's analysis, Attali locates "sonic culture's future-sensing analytical power in its liquidity compared to other cultural fields, a suppleness that attunes it to rhythmic and morphological potentials."[448] One cannot know exactly what chaos the culmination of the drone's gradually intensified swelling will bring, but the future-sensitive attunement of human hearing forces listeners to take note of every minute shift in the filter envelope. Listeners are made aware of

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[445] Goodman, *Sonic Warfare*, 50-1.
[446] Ibid, 65.
[447] Eshun, *More Brilliant Than The Sun*, 7.
[448] Goodman, *Sonic Warfare*, 51.

every degree traversed by the synthesizer through the sonic spectrum that ranges from lurking, latent vibrations to harsh, exposed metallic frequencies. In this sense the affective field of the growling drone's sonic threat is virtual, constituting "the pool of *relational potential* from which the affective event is drawn."[449] Lurking in the shadow of a potential, impending explosion of frequencies into unbridled harsh noise, this pool of relational potential relates to the listener's proximity to the sound itself, their relationship to its potential for detonation into a sound we cannot but anticipate and imagine. The listener holds an affective relationship to the growling drone itself as it looms, swells and threatens to explode into something one cannot yet know, yet dreads in this absence of concrete knowledge. On "Ghost Raid", synthetic "horns loom into tonal shadows"[450] of unforeseen bombardment by the Godlike omniscience and omnipotence of an invisible war machine. This is a distinctly affective, anticipatory and future-oriented relationship between the song and the listener. Specifically, the swelling brassy growl of Al Qadiri's synthetic drone affects a sense of dread, of anticipation for what comes next. On "Ghost Raid", this dread arrives and falters in waves tied to the oscillation of the filter envelope, swimming beneath the surface, rising up only to make a show of its potential for sonic catastrophe.

Beyond the brooding soundscape of track's introduction, Al Qadiri punctuates "Ghost Raid" with sporadic rhythms akin to Eshun's elaboration of the Futurhythmachine. The sparse rhythmic elements of "Ghost Raid" function as markers and confusions of linear time, echoing Eshun's statement that artists who employ the Futurhythmachine "become

[449] Bertelsen and Murphie, "An Ethics of Eveyday Infinities and Powes: Felix Guattari on Affect and the Refrain," 153.
[450] Eshun, *More Brilliant Than The Sun*, 33.

an extension of the machine which generates time."[451] As the droning brass pad swells into a sinister melody, explicitly dreadful in contrast to the robotic indifference of the higher registered vocal synth, this as-of-yet formless and unpuncuated soundscape is penetrated first by the boom of an artillery blast. For a moment after this solitary blast, the brass swells and vocal melodies resume uninterrupted. Suddenly, however, another gunshot pierces the thickness of this foreboding sonic atmosphere. This gunshot is instantly followed by the sound of a gun reloading, and then by the sounding of a drum machine clap and a sporadic burst of synthetic kick drums. Before this rhythm can fully materialize, however, it dissipates to the resounding reverberation of another clap. After this clap, the kick drum and clap reemerge together, forming an off-kilter rhythm of kicks on every first, third and fifth beat. This rhythm is colored gradually by rapid bursts of drum machine hi-hats and shakers that appear and disappear from the track's sequencing with increasing frequency. In its quick assemblies and equally ephemeral dissipations, this rhythm produces a non-linear marker of time that follows the Futurhythmachine's imperative "to design, manufacture, fabricate, synthesize, cut, paste and edit a so-called artificial discontinuum"[452] of time through analog and digital rhythm sequencers. The percussive rhythm of "Ghost Raid" does not proceed uninterrupted, but is rather defined by its continual interruption, dissipation and seamless rematerialization and reintegration into the haunting metallic soundscape. This spasmic irregularity affects a sense of constant movement and diversion from any preprogrammed agenda. In line with the Futurhythmachine's affinity for discontinuities of time, these rhythms sound akin to the fluidity of warfare on the battlefield that forces combatants to adjust constantly to the flux

[451] Ibid, 95.
[452] Ibid, -003.

of bodies and munitions morphing the landscape around them in real time. This chaotic flux of warfare works constantly to undo the rigidity, discipline and uniformity that defines the State military regiment. Notably, the drum machine hi-hats and shakers emerge in sporadic, stuttering bursts reminiscent of machine gun fire. In the music video for "Ghost Raid" by American visual artist AJ Gjovic[453], the hi-hats and shakers are synchronized with the visual rhythmic blasting of yellow tracer rounds into the sky from surface-to-air artillery units planted invisibly into a computer-generated desert. Synchronizing the Futurhythmachine's rapid deployment of the hi-hat sample with bursts of artillery rounds, the percussion of "Ghost Raid" identifies the drum machine with the visual rhythm of warfare. In the style of nomadic warfare, subverting the overdetermined codification of warfare by the State, Al Qadiri fashions the drum machine into a sonic weapon, assaulting listeners with sharp and unpredictable impingements on the backing soundscape of dread.

Al Qadiri's employment of the drum machine also suggests a mutually affective cyborg relationship between the human artist and the inhuman rhythm synthesizer that enacts sonic warfare through the rhythmic weaponization of sound. Following analog synthesizer pioneer Robert Moog's case that "an electronic instrument becomes an extension of a sensitive biological system,"[454] Eshun identifies New York 'gothic futurist' artist Rammellzee as a key innovator of the deployment of military aesthetics in Afrofuturist beat cultures. Echoing Al Qadiri's deployment of the rhythm synthesizer as a sonic weapon that punctuates the affective experience of time while listening to "Ghost

[453] The Museum of Contemporary Art, *Fatima Al Qadiri - Ghost Raid - Art + Music - MOCAtv x Fade to Mind #1*, 2013, https://www.youtube.com/watch?v=eDZaU51P43U.
[454] Quoted in Eshun, *More Brilliant Than The Sun*, 125.

Raid", Eshun contends that "abstracting HipHop into a series of formal operations is the first stage in Rammellzee's militarization of beat culture. His aim is to turn the abstract machine into a conceptual WarMachine. This is why he describes himself not as a producer or an MC but as 'a mathematician and an engineer' who 'builds weapons for a living.'"[455] Rammellzee's work negotiates with the 'formal operations' of mathematics and engineering to affect conceptual movements in the listener, techniques that inculcate the sonic mythology of Rammellzee's conceptual weapons engineering into the affective sensorium. For Eshun, Rammellzee integrates the scientific languages of mathematics and engineering into the realm of sonic fiction for their conceptual power: "Writing, alphabets, typographies are all ubiquitous elite technologies that have lowered themselves into your consciousness where they adapt you to *their* habit, *their* reflex, *their* perception. The alphabet is not just a transparent communication but a ubiquitous technology, a system adapted and encrypted by successive religious regimes for warfare."[456] In this definition, one can approach the notion of ubiquitous elite technologies as any formal system that can codify and overdetermine structures of meaning, such as mathematics or engineering. As such, Al Qadiri subverts the traditional ubiquitous language of the drum machine as the synthetic reproduction of acoustic drum noises as substitutes for human-played acoustic drums. She instead fashions the drum machine into a sonic weapon designed to affect awareness of the formal inhumanity of military warfare, deploying this affect transmission in the form and context of electronic dance music. Al Qadiri's nomadic reconfiguration of the drum machine therefore seeks to seize "control of the means of perception"[457] of the battlefield on the dancefloor. On "Ghost Raid",

[455] Ibid, 32.
[456] Ibid.
[457] Ibid.

sonic perception is bombarded by constant manipulation. Hi-hats skitter through the soundscape from multiple aural directions, degrees of left and right, echoing the whizz of bullets past one's head and situating the listener spatially within the song's simulated sonic battlefield. The reverberating booms of kick drums, artillery fire and gunshots, ground and arrest the listener as if there is no escape from their aural blast zones. The listener must strain their ears to discern whether the vocal sound they hear is human or robotic; the menacing swells of synthetic brass leave one bracing for the full materialization of its latent rage, should it ever even come; the irregular stuttering of kick patterns and panned hi-hats pop up as surgical, tactical surprise attacks on the ear. Between these elements, "Ghost Raid" continually keeps listeners on their toes, affecting dread and anticipation for the next sonic assault on the senses.

Throughout Al Qadiri's synthetic realization of the sounds, feelings and affects of militarized warfare, "Ghost Raid" also finds itself on the politicized, conceptual outskirts of a "cartography of diasporic bass cultures and their transduction of ecologies of dread … the audio viruses that Afrofuturist musics and fictions have created."[458] Al Qadiri's deployments of digital synthesizers, vocoder aesthetics and reconfigured drum machines approach sonic warfare from the angle of the nomadic war machine; music and sounds that are improvised, resourced and remixed in cross-contamination among diasporas of marginalized peoples living in the shadows of western military, economic and political hegemony. Diasporic bass cultures are defined by Goodman as sharing heritage in the emphasis on bass and dread of Jamaican sound system cultures, and the imperative to make crowds move through the deployment of these sonic and affective materials.

[458] Goodman, *Sonic Warfare*, 62.

Significant to Goodman's definition of sound systems is that they do not comprise sound technologies such as amplifiers and loudspeakers alone, but rather comprise the mutually affecting totality of "bodies, technologies, and acoustic vibrations."[459] The global cartography of such sound system cultures thus focuses on the affective production of dread through the deployment of low frequency sounds at high amplitudes, taking on a variety of names between "a multiplicity of socioeconomic configurations, ethnic specificities, colonial legacies, and complex musical histories" that nonetheless share in "their construction of temporary bass ecologies to hijack through sonic dominance"[460] the affective sensorium of producers, DJs, listeners and dancers alike. While minutely specified as genres and subgenres such as UK Grime, baile funk, dubstep, moombahton, Afrobeat and countless others, this global cartography of bass encounters more difficulty approaching itself as a whole decentralized network of sonic affect contagion. Goodman accounts for a few proposed terms, spanning "what Kodwo Eshun describes as Black Atlantian rhythmic futurism, what Simon Reynolds has tagged the 'hardcore continuum' and what others have referred to more recently as 'global ghettotech.'"[461] Others such as Thomas Burkhalter and Jace Clayton have adopted the term 'World Music 2.0' as a corrective update to the corporate invention of World Music 1.0 in the 1980s by industry executives to sell 'foreign', 'exotic' and 'hybrid' music commodities to a freshly globalizing world market. World Music 2.0 refers instead to the capability of the Internet age for the infinite digital production and reproduction of seamless transnational cultural networks, while also accounting for the stakes of cooptation and regression into the structures of the dominant music industry and colonial configuration of essential

[459] Ibid, 5.
[460] Ibid, 173.
[461] Ibid, 116.

identities. Clayton writes that, “at its worst, World Music 2.0 offers the clubland equivalent of a package vacation. At its best, it propels some of the most exciting music in the world.”[462] Others still, such as British Internet music enigma Dean Blunt (founder of the aptly named World Music record label) view the act of breaking bass music cultures up into such demographic and often racialized distinctions as unproductive reinforcements of existing racial categories. Interviewing under the pseudonym Glenn Danzig, Dean Blunt opts instead to elucidate “how dub sound system culture runs through to doom metal and bass sound — like it's all the same shit. And everyone's all smoking weed and everyone's all in the church and it's all a congregation and it's all the same shit.… So, yeah, I think genres don't really matter at all. I don't even know the names of that many genres, to be honest.”[463] Whatever they are and whatever the importance of their discursive specification, these genres are war machines, nomadic and affective in their capacity for the “exchange of contagious sonic fluids”[464] which comprise the samples, synth patches, virtual machines and .midi files that are infinitely shared, reproduced, remixed and broadcast. As a global ensemble, Goodman contends that this cartography of diasporic bass cultures figures a decentralized nomadic resistance against the monopolization of noise control and weaponization of sound by the State. This assemblage constitutes sonic warfare on a register beyond and extrinsic to the armed warfare of the State; instead opting to reach and mobilize demographics at a subpolitical affective level, producing dread and exorcizing it into joy as a means of decoding the State’s ecology of fear.

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[462] Clayton, “World Music 2.0,” 104-5.
[463] Dean Blunt, Every Day Is A Lifetime, interview by Ali Shaheed Muhammad and Frannie Kelley, 2016, National Public Radio, https://www.npr.org/sections/microphonecheck/2016/04/01/472637838/dean-blunt-every-day-is-a-lifetime.
[464] Goodman, *Sonic Warfare*, 130.

The above analysis illustrates the sonic warfare of Fatima Al Qadiri's "Ghost Raid." Al Qadiri's deployments of the vocoder and drone affect subversions of military, science fictional and hyperreal aesthetics alike, alienating the Gulf War from the discursive realms of Middle Eastern geopolitics and western humanitarian concern. Al Qadiri's deployment of schizophonic vocal and drone sounds brings attention to the hyperreal simulations and abuse of military technology that characterize the military-industrial-entertainment complex in their "generation by models of a real without origin or reality" from the technological detritus of military innovations. The genealogy of Al Qadiri's abuse of military-industrial-entertainment technologies ranges from the original World War II vocoder, to the drone sound and the army brass band, to combat-simulation-themed video games such as *Desert Strike: Return to the Gulf*. The synthetic soundscape of "Ghost Raid" affects an abuse of these media and technologies that draws attention to their collective artifice and inhumanity, ironically by employing these technologies and aesthetics toward Al Qadiri's own position that "marketing military video games to children, is more insidious and fantastical … than fiction."[465] In this regard, Fatima Al Qadiri's abuses of military-industrial-entertainment media and technologies works to decode the violent inhumanity of State war machinery and the desensitizing hyperreality of military simulations that science fictionally fuel their development.

In producing the alien soundscape of "Ghost Raid" in the name of the *Desert Strike: Return to the Gulf* video game, Al Qadiri fashions a critique of the hyperreal war simulations through which the Gulf War has been popularly represented. The

[465] Al Qadiri, "Ghost Raid."

overdetermined aestheticization of militarized warfare endemic to representations of the Gulf War such as *Desert Strike: Return to the Gulf* exists in stark contrast with Al Qadiri's own experience of Saddam Hussein's invasion as "'the most terrifying sci-fi experience of my childhood … The most surreal thing was the breakdown of society, and when they burned the oil wells and the sky turned black. It felt like being on the surface of the moon. This record is about the relationship between the virtual and reality of war.'"[466] Flying far from the strategic tendencies of the American military-industrial complex, Al Qadiri ironically cannibalizes the science fiction mythology of the Lockheed F-117 Nighthawk, the invisible flying death sentence known as the "Ghost of Baghdad,"[467] to make a point of the confluence of warfare's traumatic realities and the virtual escapes from these realities sought out by Al Qadiri's childhood self in video games such as *Return to the Gulf*. Merging these poles into a united sonic expression, Al Qadiri affects her own music with a feeling of hyperreality, a melding of reality and the virtual that plays off the total power and knowledge commanded by the State's production of military simulations that stake claims to being total, whole representations of warfare. In the vein of Baudrillard's discourse on simulacra, the use of combat simulators as military training devices suggests that it is the virtual simulation that precedes and models real warfare rather than vice versa. Taking such military simulations into her own hands through the abuse of the military's own media, technologies and sounds, Al Qadiri cleaves virtual simulation from actual bloodshed, allowing the former to stand on its own as a non-violent artistic critique of the glorification of actual modern warfare through simulations.

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[466] Orton, Al Qadiri, and Al-Maria, "The Desert of the Unreal."
[467] Al Qadiri, "Ghost Raid."

Like the Afrofuturist strategy of self-alienation, Al Qadiri's sonic cannibalization of militarized modernity tends to reveal the inhuman aspects of military-industrial-entertainment media and technologies. Crafting a soundscape that draws attention to the artifice and inhumanity of its own production, Al Qadiri affects a sonic inhumanism that voluntarily ejects the catastrophe of the Gulf War from the category of human. Inhumanism, as elaborated by Reza Negarestani, functions as a sustained critique of the Enlightenment humanist project's exclusive definition of humanity as a "self-portrait of man drawn in sand."[468] This self-portrait of humanity is one constructed in the self-image of the white, western European, post-Enlightenment philosophers who construed, constructed and enforced the so-called universal category of human to begin with. Negarestani describes inhumanism as "exactly the activation of the revisionary program of reason against the self-portrait of humanity."[469] This self-portrait relates to what Eshun describes as the "pointless and treacherous category"[470] of the human from which enslaved Africans were categorically excluded, the discursive factor that characterized and justified the violence and brutality of the Transatlantic Slave Trade and its specters. Negarestani writes that the labor of the inhuman "partly consists in decanting the significance of human from any predetermined meaning or particular import set by theology—thereby extricating human significance from human veneration fabricated as a result of assigning significance to varieties of theological jurisdiction."[471] The theology in the case of the Transatlantic Slave Trade comprises American settler-colonial Christianity, secular liberalism and industrial capitalism alike, in their

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[468] Reza Negarestani, "The Labor of the Inhuman, Part I: Human," *E-Flux*, no. 52 (2014), https://www.e-flux.com/journal/52/59920/the-labor-of-the-inhuman-part-i-human/.
[469] Reza Negarestani, "The Labor of the Inhuman, Part II: The Inhuman," *E-Flux*, no. 53 (2014), https://www.e-flux.com/journal/53/59893/the-labor-of-the-inhuman-part-ii-the-inhuman/.
[470] Eshun, *More Brilliant Than The Sun*, 193.
[471] Negarestani, "The Labor of the Inhuman, Part I."

shared devaluation of African life through the tightening of the category of the human. Amid the Transatlantic Slave Trade, each of these regimes of power and meaning-making thrived from the categorical construction of the human as white, male, and property-owning. Eshun contends that it was this racialized political construction of the human that operated "the mutation of African male and female slaves in the 18th century into what became negro, and into the entire series of humans that were designed in America. That whole process, the key thing behind it all is that in America none of these humans were *designated* human."[472] For Eshun, to jettison oneself from the exclusive post-Enlightenment veneration of the human category, affiliating instead with the abuse and adaptation of inhumnan machine technologies, is part of the work of Afrofuturism, of "being an African-American alien musician."[473] This orientation of Afrofuturism works to upend the traditional structure of affective relationships to the future as ordained by the humanist "rubrics of conservation and progression,"[474] of continued adherence to the existent construction of the human category as the necessary and only feasible projection toward the future. Afrofuturism stages a revolution against the humanist category in approaching and structuring affective relationships to the future precisely from the standpoint of alienation and inhumanity, of affiliation and connection to the machine more-so than the essentialist and exclusive idea of the human being.

I contend that Fatima Al Qadiri's *Desert Strike* EP extends the alienated positionality of Afrofuturist affect and futurology to the Middle East. As cultural artifacts such as *Desert Strike: Return to the Gulf* illustrate, the Middle East is figured in the

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[472] Eshun, *More Brilliant Than The Sun*, 192.
[473] Ibid, 193.
[474] Negarestani, "The Labor of the Inhuman, Part II."

military-industrial-entertainment complex as a deserted sandbox for western heroism and sci-fi weaponry, a nameless receptacle for hyperreal war games and incendiary munitions. This alienated positionality can be found translated in Al Qadiri's work through the framework of Gulf Futurism, described by Avanessian and Moalemi as a futurist orientation emergent from "the 'consumer-culture robot desert' of the Gulf region in the Middle East, [wherein] Baudrillard's prophecies seem to shape all that is left of reality per se."[475] For Avanessian and Moalemi, the Gulf War's violent impingements on the Kuwaiti landscape, was a reality seemingly incommensurate with the growing hyperconsumption and technocapitalism of the region whose primary objectives were of sprouting luxury developments and attracting investments from the globalizing business world of the 1980s. Karen Orton writes that "for 31-year-old Al Qadiri's generation of Kuwaiti youth, growing up amid the architectural and technological fruits of recently nationalised oil wealth was jarring in the wake of the Gulf's pre oil-boom life of mud huts and dug wells. 'I feel like we leapt a century!' Al Qadiri exclaims."[476] For Sophia Al Maria, "one of the most ancient ways of living came head-on against extreme wealth and capitalism – glass and steel against wool and camels … There's been a quantum leap and there's a temporal gap. The two things have been stitched together and there's a missing piece of history. (Our idea of) Gulf futurism began to coagulate with that idea."[477] In August 1990, Saddam Hussein's invasion of Kuwait disrupted this emergent technocapitalist futurity, momentarily shattering the affective vision of utopia-bound progress. The sudden turmoil of the Iraqi invasion and subsequent U.S.-led bombing campaign inflicted a feeling of alienation among the Kuwaiti populace. Forced suddenly

[475] Avanessian and Moalemi, "Ethnofuturisms," 12.
[476] Orton, Al Qadiri, and Al-Maria, "The Desert of the Unreal."
[477] Ibid.

from the fruits of technocapitalist progress to confront the violence of military conflict and the perils of oil dependency that enticed Hussein's invasion, the Gulf War engendered a "breakdown of society"[478] that is scarred into Al Qadiri's memory. Linking the Gulf Futurist paradigm to the alienation of Afrofuturism, Avanessian and Moalemi write that Al Qadiri's memory of Saddam Hussein's invasion as "'[feeling] like being on the surface of the moon' … implies the oxymoron of experiencing an intensified lack of empirical certainty as well as the near impossibility of distinguishing between reality per se and the memories of one's own experience of reality."[479] In this sense, Gulf Futurism accommodates a sense of hyperreal alienation that is bound with the master narratives of capitalist progress and modern warfare, as well as with a temporal gap between Kuwait's hypercapitalist modernity and the pre-postcolonial cultural history of the region. Nodding specifically to the genesis of the *Desert Strike* EP, Avanessian and Moalemi observe that "this condition was further destabilized, as Fatima recalls, when only a year later she started 'playing' with such hyperreality via the shoot 'em up video game *Desert Strike: Return to the Gulf*."[480] In this respect, "Ghost Raid" and the whole of the *Desert Strike* EP hold a distinct affective relationship to time related to Gulf Futurism and the alienation engendered by the temporal gap wedged by the induction of hypercapitalist, futurological development projects. For Al Qadiri, the lived experience of this alienation is bound with the Gulf War itself as well as the hyperreal representations of the war in military simulation games such as *Desert Strike: Return to the Gulf*.

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[478] Ibid.
[479] Avanessian and Moalemi, "Ethnofuturisms," 12.
[480] Ibid.

"Endzone" and *Brute* (2016)

Al Qadiri's 2016 LP, *Brute*, channels and remixes the State securitization of sound and criminalization of protest. *Brute* launches another tactical assault on the militarization and policing of sound that takes aim at the State's second head: that of police, the role of the "jurist-priest", the "legislator" or the juridical "organizer"[481] of political sovereignty. For Deleuze and Guattari, police is a form of non-militarized warfare leveraged by the State. However, as Al Qadiri's work demonstrates, the roles of military and police have become increasingly confused and intertwined in the 20th and 21st centuries. Primarily, though, Deleuze and Guattari the role of the police with the apparatus of capture; or the prevention of popular uprising by the use of police to capture such dissent. The police function of the State "uses police officers and jailers in place of warriors, has no arms and no need of them, operates by immediate, magical capture, 'seizes' and 'binds,' preventing all combat."[482] For Al Qadiri, *Brute* is explicitly "a record about the criminalization of protest,"[483] the State arrest or capture of political activity. In conversation with Jace Clayton on the sonic and conceptual processes that contributed to the production of *Brute*, Al Qadiri recounts her various experiences of curfew and martial law. She recalls how "in the States in DC in 1999 during the IMF World Bank protests I was a freshman in college, it's just this atmosphere of fear, of needing to obey above all else, you know, and it's martial law, which I had experienced … during the invasion of Kuwait every single day. So I had not experienced curfew outside of the invasion up until the age of 18 and it really brought back memories of being under martial law. So I wanted to take

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[481] Deleuze and Guattari, *A Thousand Plateaus*, 351.
[482] Ibid, 352.
[483] Fatima Al Qadiri, Fatima Al Qadiri in conversation, interview by Jace Clayton, 2018, Ableton, https://www.youtube.com/watch?v=FSLQYEgAxtM.

elements that were basically this kind of police, military, carceral State … I wanted to try to somehow condense these feelings that have been built up over the years … the distress that you feel when you see that on the screen or when you're there in person, which is this feeling of dread, of fragility, of David and Goliath."[484] Al Qadiri's description of her experiences under martial law reflect precisely the ecology of fear coined by urban theorist Mike Davis and further defined by Goodman as "the affective climate of catastrophic urbanism, the city and its control systems as affected by the threat of natural, technological, sociopolitical, or economic disaster."[485] In this regard, the State control systems that regulate urban life, including the criminalization of protest, are modes of affective manipulation and sonic warfare alike. Before one even hits the play button on *Brute*, the record's artwork features a glassy-eyed Teletubby encased in militarized navy blue SWAT gear, an image borrowed from American artist Josh Kline's *Freedom* series (2015)[486]. This image affects a sense of dystopian absurdity and dread that Kline links distinctly to the militarization of police, the criminalization of protest, and the ecology of fear that this alliance engenders. Al Qadiri's choice of such a strangely dreadful image finds apt reflection on *Brute*'s sonic register. In particular, I will analyze the track "Endzone," which begins with the shared military and police use of devices such as the Long Range Acoustic Device (LRAD) to disperse crowds and damage hearing faculties.

Fatima Al Qadiri's 2016 song "Endzone" stages a hyperreal reproduction of the ecology of fear as examined by Mike Davis and Steve Goodman. The track begins by fading into

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[484] Al Qadiri, in conversation.
[485] Goodman, *Sonic Warfare*, 196.
[486] Ciara Moloney, "Josh Kline" (47canal, 2015), https://47canal.us/media/pages/artists/josh-kline/press/4266481283-1589921989/josh-kline-by-ciara-moloney.pdf.

a low, buzzing, rumbling noise that invokes the image of a large piece of industrial equipment being powered on. Played at high amplitudes, this sound would shake a room while also filling the chamber to the brim with reverberation or the "propagation effect in which a sound continues after the cessation of its emission."[487] A turbulent sea of reverberation makes it impossible to distinguish the airy, time-stretched specter of sound from its source of emission, destratifying reverberation itself from any distinguishable origin and thus rendering it ubiquitous to the soundscape. As "effects defect from cause,"[488] a sense of dread sets in, marked by the confusion and ubiquity of electric humming and head-spinning reverb. Suddenly, the electric buzzing gives way to clicking bursts of white noise. Augoyard and Torgue include both white noise and clicking under the umbrella of sonic ubiquity due to their respective "confusion of frequencies … and because the shortness of the [clicking] sound makes it difficult to identify the level, intensity, and location."[489] Confusion and inability to identify the specificity of these sounds defines their affective impact on the listener; a disorientation of the listener to the space from which the white noise sounds and the precise time that its split-second clicks occupies. After only a few seconds of this sonic confusion, the clicking transforms into a harsh blast of white noise, defined by Augoyard and Torgue as "artificial noise composed of the totality of frequencies."[490] This blast of white noise, too, lasts less than a second before it is overtaken by a resounding, bassy metallic pang. Stabs of dull bass frequencies intervene and mark upon the background atmosphere, but not for long, as their resonant frequencies are quickly absorbed into the more sonically dominant background noise.

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[487] Augoyard and Torgue, *Sonic Experience*, 111.
[488] Eshun, *More Brilliant Than The Sun*, 7.
[489] Augoyard and Torgue, *Sonic Experience*, 134.
[490] Ibid, 171.

Each bass stab feels like a punch in the head, or at least a warning that such violence will be imminently cast down by an unfeeling, machinic sovereign power. These metallic low-end pangs affect a fear in one's gut; a sense that something is amiss, of waiting dreadfully at the precipice of violence. For Eshun, the affective moments of "verge, brink, cusp: these imminent states are sustained into prolonged thresholds, stretched edges, incipient action."[491] "Endzone" thus sets its tone as a menacing intervention; an interruption of programming reflective of the TV-static-like white noise that marks the activation of the dreadful pang. In this regard, "Endzone" commences with an arrest of the listener; an apparatus of capture that induces a sense of dread akin to that leveraged by militarized police amid the urban ecology of fear.

As these pangs set the foreboding rhythm and dreadful tone of "Endzone," Al Qadiri then pivots toward an immediately hyperreal approach to constructing the soundscape of the ecology of fear. The cold, authoritative, robotic vocal of a police LRAD resounds through the air. From the chaotic confusion of the track's opening seconds, the listener now learns of their own position in a police kettle, a participant amid a protest declared illegitimate by the State. Emitting from an LRAD, a device originally "developed in a weapon programme but … now denoted as a hailing and warning device,"[492] The cold, schizophonic male voice of authority commands: "You are no longer peacefully assembling / You must leave / Return to your vehicles / Return to your homes / You will be subject to arrest if you fail to comply / You cannot be in the street / You are not peacefully assembling anymore / You must leave your vehicles / Leave to your homes,

[491] Eshun, *More Brilliant Than The Sun*, 113.
[492] Altmann, "Millimetre Waves, Lasers, Acoustics for Non-Lethal Weapons?" 6.

immediately."[493] Delivered by a cold, uncompromising voice of authority, these commands sonically interpellate the listener into a mode of submission to the State. Affective tonalities of "distress … of dread, of fragility"[494] emerge to dominate the soundscape in which Al Qadiri situates the listener. Following Linda Ruth-Salter's argument that "hearing supports our ability to navigate the physical environment and, because of the social cues sound provides, helps us navigate the social environment,"[495] Al Qadiri's deployments of rumbling bass, disorientating white noise and the cold official command of the LRAD place listeners firmly within the social environment of the ecology of fear at its most tense and authoritarian. If "sound appears linked to territorial claims, power projection, and eliciting of emotions,"[496] then the listener hears these claims, projections and emotions unfold around them as if in real time. As the LRAD commands project, scattered screams, shouts and chants bleed into the foreground of the mix from the pool of formless, concussive reverb. One hears the dread, social upheaval and police crackdown at once. This confluence of affects unfolds spatially around the listener as well as imbuing the listener with the temporal sense of precipice and fearful anticipation intrinsic to the ecology of fear. Throughout the LRAD commands, the aforementioned metallic pangs persist, intensifying in amplitude and fluttering unsteadily in frequency, plunging into the depths of evolutionary fear responses. Simultaneously, the pool of background reverberation rises to affect a sense of time slowing, of capture, arrest and battery by and within the State military-police apparatus. On the psychological and physiological perception of reverberation, Augoyard and Torgue write that "in everyday

[493] Al Qadiri, "Endzone"
[494] Al Qadiri, Fatima Al Qadiri in conversation.
[495] Salter, "What You Hear Is Where You Are," 766.
[496] Ibid.

practice, reverberation is omnipresent … The average listener tends to valorize reverberation when he or she becomes aware of it, sometimes having the impression that sounds are interminable."[497] Reverberation possesses a ubiquity that makes its distinct dominance over the soundscape of "Endzone" all the more unusual, disruptive, disconcerting and affecting. Something is amiss in the air. "In fact," Augoyard and Torgue write, "because of air and material absorption, reverberation is always mediated. If reverberation was infinite – if sounds did not fade away and were never absorbed – a single sound would 'circulate' constantly and the sound level would increase to infinity, making all communication impossible."[498] Al Qadiri's deployment of amplified, protracted reverberation affects this sense of airlessness, of suffocation under the State. This sonic concussion is penetrated only by screams and the command of the LRAD. Movement, position and existence in public space become regulated by the State as it moves to disperse or arrest the bodily autonomy of the crowd.

Amid the suffocating pool of reverberations, the dreadful low-frequency pangs persist even after the LRADs commands cease. This is the time in which orders are to be obeyed; the anxious precipice of the dispersal or violent crowd control to ensue. As metallic pangs continue to beat on the nervous systems of listeners and sonic-fictitious protesters alike, another command is heard: "Please turn off your video."[499] At this point the fictitious protesters make their own Southern United States accents audible: "'Hey, did they just say, 'Please turn off your video'?' / 'That's what it sounded like to me' /

[497] Augoyard and Torgue, *Sonic Experience*, 114.
[498] Ibid.
[499] Al Qadiri, "Endzone."

'Are we supposed to turn off, stop filming?' / 'I think that's what they said, honestly.'"[500] Civil rights constrict further under this sonic command of the State, this time denying the right to record and disseminate information, the liberal freedom of speech. Audibly shocked as to the sudden totalitarianism of their liberal democratic State, the fictitious protesters affect disbelief at the situation unfolding around them and the listener. This disbelief wafts through the uncertain air of an intermediate period, a calm before the storm characterized by the haunting presence of hanging, disembodied reverberations and a thick ambience of dread. Slowly, from the amorphous haze of reverb, one begins to distinguish the sound of a larger, mobilized crowd. Incited by the State's criminalization of protest, the crowd is stirred to anger, a revolt brews from the confusion and chaos incited by the State. Until this point, the crowd has been heard only through lone cries of distress, sparse chants and interpersonal conversations. A form of political collectivity now becomes from the formless haze. A collective affect or aura of revolt threatens to bite back against the State's repressive commands. Moods, feelings and intensities are stirred and incited toward the defensive, a sudden collective certainty of the State's repression. For Ruth-Salter, the sudden collective certainty affected by such a threatening sonic environment "has evolutionary significance. We must have confidence or we would be overwhelmed with confusion and become a predator's meal."[501] The sonic warfare of the State works to incite, agitate and crush this affective confidence; tightening combat boots and readying less-than-lethal rounds as the crowd stirs. Tension, anger and unrest mount to a boiling point.

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[500] Ibid.
[501] Salter, "What You Hear Is Where You Are," 768.

And then the police sound the alarm. A rapid, whooping high-frequency siren pierces the soundscape mercilessly. Immediately, Massumi and Goodman's discussions of the affective trigger of alarm comes to the fore. Drawing on the etymology of the word in the Italian "all'arme, a call to arms," Goodman observes that the "very modulation of frequency produces a state of alert that can undermine and override cognition."[502] The alarm is an aggressive affective weapon of the State, amplified by its strategic temporal deployment to activate the heightened panic and dread of the crowd already subjected at length to the sonic ecology of fear of a police kettle. Whether induced by "burglar alarms, ringtones, alarm clock, [or] fire alarms: a whole directly affective asignifying semiotics of emergency [emerge], a call to action, the inducement of a state of readiness, initiating a kind of technical antiphony. Wake up! Run! Beware! Respond! Act!"[503] Goodman continues to write that the shrill frequencies of sirens and alarms immediately affect the human body's "ability to interpret sounds and attribute likely causes to them [that] is learned culturally," which itself "is built on top of an evolutionary hard-wired instinct to respond appropriately, for the sake of survival."[504] In brief, alarm works affectively by "triggering an evolutionary functional nervousness"[505] in the body that nonetheless carries distinct social signs. In the case of "Endzone", these signs are of submission and obedience to the State.

Massumi describes the affective work of the alarm to be at once "nervously compelling" and "immediately performative,"[506] working on biological and symbolic levels to

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[502] Goodman, *Sonic Warfare,* 66.
[503] Ibid.
[504] Ibid.
[505] Ibid, 65.
[506] Massumi, "The Future Birth of the Affective Fact," 64.

penetrate "the innervated flesh"[507] of the human nervous system, extending the forcefield of affect beyond sociolinguistic cognition alone. Despite being cushioned by reverberations that signal air and distance between the listener and the alarm, the listener cannot help but sense the panic. On the spatial distribution of alarm's affective reach, Augoyard and Torgue write that "security alarms are problematic in terms of localization: from far away we know the origin of the sound; from closer, on the other hand, we often do not – hence probably a cause of their effectiveness (to create panic)."[508] The schizophonic sourcelessness of the sound extends in this case to the reality of the LRAD alarm system. Dread pervades the affective sensorium, attacking from everywhere and nowhere at once in sonic ubiquity. Panic ensues from this confusion, as well as the confusion of the body's own response to the sound– is the reaction physiological and evolutionary or social and discursive?

For Massumi, alarm transgresses the nature/culture divide that claims the two systems to be separate and distinct. When the alarm sounds, "the bodily activation event occurs at a threshold where … the body cannot distinguish its own 'instincts' from the reawakening force conveyed by the sign's formative performance."[509] The formative performance of the alarm is the sign of panic that it engenders through its own composition of vibration, frequency and amplitude. And yet this performance triggers a reawakening in the body that occurs amid evolutionarily hardwiring of fear and the symbolic unpacking of the sign of alarm's meaning. At the right amplitudes and frequencies (factors studied carefully by State military and security apparatuses), the alarm hits the body in an instant, regardless

[507] Ibid.
[508] Augoyard and Torgue, *Sonic Experience*, 136-7.
[509] Massumi, "The Future Birth of the Affective Fact," 65.

of its source, its message or the validity of the threat behind it. The process of alarm as it impacts the body is thus affective on multiple registers: alarm targets the individual body as a receptacle of affected dread; it plays on the bodily capacity of affect to spread between individuals, so that when one person panics, their panic is sensed and spread contagiously among the crowd; and it is capable of producing a collective condition or affective atmosphere of dread. Al Qadiri reproduces this affective condition musically, displaying its concerted construction and deployment by the State, while also demonstrating that these sonic materials may also be redeployed and reconfigured artistically into a critical model of the liberal democratic State's abuses of affect and force.

As the alarm sounds, a hyperreal sonic portrait of the criminalization of protest begins to emerge in which a variety of actors are cast. In the same moment as the alarm sounds, a brazen, hypermasculine voice reminiscent of the macho timbre of an NFL announcer booms out: "Frontline of the info wars!"[510] In a horrific twist, this crackdown is also a right wing media event akin in tone to a game-day celebration. Despite being affected by the harsh frequencies of the alarm themselves – "That is really hurting my ears though…"[511]- certain observers applaud the State, rousing sadistic commentary ("All right, here we are!"[512]) over the sounds of sneakers on pavement, rounds shooting off and gas canisters exploding ("That's a very peaceful solution officer."[513]) Amid the frenzy, the desperation and imminent dread affected is also heard among the fictional demonstrators,

[510] Al Qadiri, "Endzone"
[511] Ibid.
[512] Ibid.
[513] Ibid.

who shout: “Oh my god, they're coming at us right now! They're coming at us right now!”[514] It sounds bleak as shells and canisters hiss and clatter on asphalt. After an agonizingly long several seconds of this chaos, the voices of the police themselves become audible: “All right! Fall back! Fall back!”[515] No matter their political positionality, these human voices are trapped in an oppressive sonic environment. Their voices squeeze through the middle frequencies between the infrasonic boom of the LRAD, capable of affecting such conditions as “neural entrainment … organ resonance effects … nausea … concussion … [and] respiration inhibition,”[516] and the ultrasonic hiss of the ear-piercing alarm, a technique endowed onto devices “originally aimed at repelling rodents” and later “repurposed on teenagers.”[517] As a sonic whole, this cacophony of sounds orchestrates an affective model of sonic warfare as leveraged by State military police in the criminalization of protest. Audiences are put in the position of the civilian caught under the boot of the State. Through Al Qadiri’s deployment of reverberation, amplified low- and high- end frequencies, alarm and sonic fictional voice acting, the listener occupies the vulnerability of the protester, the absurd cruelty of alt-right media celebrations of police brutality, and the cold violence of the State. These elements culminate in a diligently (re)produced sonic ecology of fear.

In conversation with Jace Clayton, Al Qadiri elucidates that the affective impact of her sonic reproduction of an ecology of fear amounts to a critique of the core tenets of western liberal democracy. Al Qadiri states that she “felt that freedom of assembly …

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[514] Ibid.
[515] Ibid.
[516] Goodman, *Sonic Warfare*.
[517] Ibid, 22.

which is part of freedom of speech … was something that was really sold to me as a child as being kind of the bastion of democracy."[518] This valorization of democracy was particularly impactful on Al Qadiri as a child growing up in Kuwait, where "the government has a limit on the number of people that can assemble publicly, and the number is twenty."[519] Over time, however, experiences in Washington D.C. in 1999 and amid the Baltimore and Ferguson uprisings throughout the first half of the 2010s all but dissolved this valorization of democracy. This disintegration of faith in the State takes on additional transnational significance in light of the affective similarities Al Qadiri cites between the police crackdowns on the IMF-World Bank protests she attended in 1999 and her memory of Saddam Hussein's invasion of Kuwait and imposition of military occupation and martial law on Kuwaiti civilian life. Clayton situates Al Qadiri's disillusionment within transnational trends of militarization of police and criminalization of protest, writing that these tendencies have garnered significant "presence with Black Lives Matter, all sorts of global protests in the wake of Arab Spring, and often the subsequent crackdowns and increased militarization."[520] For Al Qadiri, State reactions to Black Lives Matter protests and the Arab Spring alike share in their production of "atmosphere[s] of fear, of needing to obey above all else."[521] Particularly in the case of democratic or self-proclaimed liberal States, those such as the United States who leveraged the valorization of democracy as a vehicle of popular consent toward the military campaigns on Iraq, Afghanistan, and Kuwait as well, Al Qadiri observes that "civil rights, and … democratic rights are never honored by democracies."[522] From this

[518] Al Qadiri, in conversation.
[519] Ibid.
[520] Ibid.
[521] Ibid.
[522] Ibid.

critique, and its sonic translation into the plane of affect, a global cartography of police violence and State militarization of civilian life emerges. *Brute* enters a transnational array of civil conflicts between States and populations into conversation with one another on the fulcrum of collective political assembly.

Clayton takes note of Al Qadiri's alternative approach to electronic music, far from the standards of dance and club music. Fatima Al Qadiri "didn't make a fun record."[523] From this comment one can understand that *Brute* is not necessarily an exorcism of dread toward the production of momentary joy, as Goodman venerates in his analysis of global soundsystem cultures. Nor does "Endzone" stage a necessarily futurological approach to music that seeks to "preprogram the present"[524] on the basis of its own sonic fiction and affect. *Brute* stages itself instead as a present-day intervention into the promised futures of western liberal democracy. Al Qadiri feels that the 21st century has wrought a confrontation "with the limitations of democracy, especially with the American election [of Donald Trump], with Brexit…. Democracy is like an old system now. It's like dictatorship. What is the difference between the protests at Arab Spring and the protests at Standing Rock? … Protestors are dehumanized, criminalized, locked up … There is no difference on the ground."[525] *Brute* unveils the liberal democratic futurology marked by promises of progress and the exportation of this futurology to as-of-yet 'unfree' societies to be a fictional front distracting from present-day brutalities and denials of the State. The implantation of such authoritarian and technocapitalist visions of the future is in fact starkly visible in the "consumer-culture robot desert" that has come to define the Gulf

[523] Ibid.
[524] Eshun, "Further Considerations on Afrofuturism," 290.
[525] Al Qadiri, in conversation.

Futurist aesthetic; the condition of a politically repressive technocapitalist emirate wherein "teenage life revolves around the mall, video games and satellite TV."[526] Al Qadiri feels that "democracy … now is like a public relations exercise."[527] In this sense, the preemptive promises of democracy are akin to the predatory futurologies fueled by western SF capital that affectively overdetermine "social reality … by intimidating global scenarios, doomsday economic projections, weather predictions, medical reports, HIV/AIDs statistics, and life-expectancy forecasts, all of which predict decades of immiserization."[528] *Brute* strives to illustrate that in the United States, this immiseration is already here; it has already arrived, and has existed for centuries of western liberal democracy. The notion that liberal democracy is the necessary and most viable path toward futures of freedom and enlightenment is itself a science fiction. While increasingly predatory, militarized and securitized in the contemporary nation-State, the endemic contagiousness and overbearing naturalization of the projected realities of western liberal science fiction attests to the political potential of any mass-affecting science fictional futurology.

Clayton raises the prospect that *Brute* works most impactfully in its affective circulation throughout the world in the present, spreading a contagious awareness of the political moment that Al Qadiri seeks to sonically define. Echoing the significance to sonic warfare of affect contagion, audio virology and the rhizomatic cultural networks that channel and metastasize these forces globally, Clayton proposes the "idea of in music, it's all about influence and change and inter-modulation.… It's this vision of a world which is

[526] Orton, Al Qadiri, and Al-Maria, "The Desert of the Unreal."
[527] Al Qadiri, in conversation.
[528] Eshun, "Further Considerations on Afrofuturism," 291-2.

all about constant change then also listening and awareness of community."[529] In the Internet age in particular, "all these sounds and scenes just globalize or have these networked existences in a way which feels very natural to us as musicians,"[530] yet runs into constant conflict with the actual social and economic rhythms and organizations of the State. Working against the overdetermination of life by the State in the age of networked cultures and political consciousness, *Brute* can be understood as a public, oral, or folk "storytelling activity."[531] This understanding of *Brute* echoes my earlier discussion of twenty-first century audio virology as a "folk music"[532] in Clayton's words. Paul D. Miller and Ken Jordan also write that networked music holds potential as "a shared folk culture, where creative expression is the property of the community at large and can be shared for everyone's benefit."[533] For Al Qadiri, "narrative and storytelling is a feminine activity"[534] within as well as before the world of networked music and culture. It "is an oral tradition, and is at odds with western macho spaces."[535] In this regard, the audio virology and affect contagion of songs like "Endzone", which deploy sound to situate listeners spatially and temporally into a felt and politically specific ecology of fear, can be understood as sonic fictions that strive to master, reconfigure and diffuse the oppressor's sound into music, where it can be deflated, studied, understood as well as amplified, felt, and lived in.

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[529] Al Qadiri, in conversation.
[530] Ibid.
[531] Ibid.
[532] Clayton, "World Music 2.0," 102.
[533] Jordan and Miller, "Freeze Frame," 101.
[534] Al Qadiri, in conversation.
[535] Al Qadiri, in conversation.

Conclusion: Sonic Fiction and Folk Cultural Contagion in the Collapsed Times of Electronic Music

Between "Ghost Raid" and "Endzone," I contend that Fatima Al Qadiri's engagements with sonic fiction, sonic futurism and networked folk culture constitute a nomadic science of sonic warfare that works to unravel the State's overdeterminations of sound and life. Against the State's will to overdetermine and codify, to project, produce and deliver an economically optimal set of social realities and political futures for its own sustenance, Al Qadiri deterritorializes and reconfigures the affective weaponry of the State against the State status quo. Modulating the State's own hyperreal aesthetics, crowd control sound technologies, and affective ecologies of fear leveraged against aggrieved populations, Al Qadiri's work follows Deleuze and Guattari's principle of the nomadic war machine that "evolution is internal, whatever the external factors that contribute to it. *The archaic State does not overcode without also freeing a large quantity of decoded flows that escape from it*."[536] Al Qadiri builds upon the military-industrial-entertainment research of Friedrich Kittler and Afrofuturist sonic fictions of Kodwo Eshun to remix the SF capital-fueled production of hyperreal war simulations that has channeled these technological developments into the mainstream of global entertainment industries such as the video game industry and Hollywood film industry. This works to the effect of producing music as a sonic war machine that makes heavy use of warlike sounds, imagery and production processes, to unmask and undo the power of their State progenitors. For example, Al Qadiri's Futurhythmachinic transformation of the drum machine on "Ghost Raid" into a humanly impossible sonic weapon enacts a

[536] Deleuze and Guattari, *A Thousand Plateaus*, 448.

disintegration of time . In these examples, Al Qadiri's work follows the impulse and tradition that Black "Atlantic Futurism is always building Futurhythmachines, sensory technologies, instruments which renovate perception, which synthesize new states of mind."[537] "Ghost Raid" installs listeners within a militarized simulation made sonic, deterritorialized from the artificial battlefield to the actual dancefloor. Al Qadiri conjures brassy snarls and drum machine artillery from thin air, affecting a simultaneously virtual and anticipatory mode of listening, a preparation for the God-like ambitions of State military violence cushioned within a hyperreal simulation of warfare. "Endzone", in contrast, synthesizes a sonic ecology of fear in the hearts and minds of listeners, affecting concentrated experiences of dread, anxiety and fear toward the militarization of police and criminalization of protest by the State. "Endzone" situates itself explicitly in the twenty-first century, in the year 2016 in particular, to intervene in State projections of the future by undermining the liberal ideological premises that the promise of this future rests on.

In spite of the cold electronic timbres and impersonal, often violent affective soundscapes of Al Qadiri's music, *Desert Strike* is described as an "audio memoir"[538] while *Brute* is a "storytelling activity."[539] The futurological and folk cultural elements of *Desert Strike* and *Brute* thus inflect and disseminate the affect contagion and audio virology of Al Qadiri's sounds. Deploying a confluence of military, police and otherwise State aesthetics to tell a combination personal narrative / political history, *Desert Strike* and *Brute* demonstrate that "*the overcoding of the archaic State itself makes possible and gives rise to new flows*

[537] Eshun, *More Brilliant Than The Sun*, 12.
[538] Orton, Al Qadiri, and Al-Maria, "The Desert of the Unreal."
[539] Al Qadiri, in conversation.

that escape from it."[540] Al Qadiri's work is nomadic, fleeing from the State's control while simultaneously disfiguring and reconfiguring the State's own self image. On the plane of sonic warfare, Al Qadiri's music thus works through modes of deception, tactical insurgence, political isolation and technological resourcefulness. *Desert Strike* and *Brute* illustrate through their non-military, non-police, non-violent reconfigurations of the State's violent and repressive sonic warfare that ""*the exteriority of the war machine ... intimates the existence and perpetuation of a 'nomad' or 'minor science.'"*[541]" In this respect, Al Qadiri's work exceeds the limits of the State's greatest ambitions. It is simultaneously personal, historical, political, futurological, oppositional, anarchic, nomadic and networked into the operating system of global cultural consciousness. It stands to affect and be mutually affected by the world of cultural workers, producers, listeners, dancers, scenes and sounds that exist and impinge on one another daily amid a constant flux of sonic and affective intermodulation. *Desert Strike* and *Brute* launch counterattacks on the two juridical heads of State, the warrior and the jailer, demonstrating the political impotence of both in relationship to the rhizomatic and endlessly networked production of diasporic, futurist, countercultural and oppositional sounds.

[540] Deleuze and Guattari, *A Thousand Plateaus*, 449.
[541] Ibid, 361.

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