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In the twelfth book of the *Odyssey*, Circe the sorceress warns Odysseus of the perils that await him on the long journey home. The first of these obstacles is an encounter with the beguiling Sirens, dangerous seductresses who lure sailors to their death with their enchanting song:

*Square in your ship's path are Seirênês, crying  
beauty to bewitch men...*

*Steer wide;  
keep well to seaward; plug your oarsmen's ears  
with beeswax kneaded soft; none of the rest  
should hear that song.*

*But if you wish to listen...*

Odysseus, overcome by curiosity, prepares to meet the challenge of the Sirens:

*I carved  
a massive cake of beeswax into bits  
and rolled them in my hands until they softened.*

(48-61, 208-210)

Homer's engaging narrative has, over the centuries, been unusually stimulative of the poetic imagination. The story also inspired the French engineer and physicist Baron Charles Cagniard de la Tour, when in 1819 he selected a name—the Syren—for the acoustic instrument of his invention, a *vox mechanica* that generated and measured the frequencies of musical tones. Cagniard de la Tour's syren was the forerunner of the modern electronic siren, which today is installed on countless thousands of emergency vehicles around the world.

In this essay, I explore the anthropological phenomenon of the siren, from its eighteenth century genesis as a scientific instrument to its contemporary manifestation as a ubiquitous form of public warning and address. The siren plays a vocal role in cultural patterns so deeply embedded that they almost seem second nature—excellent motivation, from an anthropological standpoint, for taking of the measure of the phenomenon. The anthropologist Clifford Geertz says, “Man is an animal suspended in webs of significance he himself has spun. I take culture to be those webs” (Geertz 5). How is the sound of the siren part of this web? R. Murray Schafer and Steven Feld, in their examinations of auditory culture *The Soundscape* and *A Rainforest Acoustemology*, have helped us to understand the way that sound, at least as much as other forms of human engagement, is deeply expressive and reflective of culture. What exactly is it that makes a siren “a sound that matters”? (Schafer 12). How does the sound of siren affect human behavior? How can we understand the rich symbolism the sound has accumulated for us?

I begin by tracing the history and meaning of the sound of the siren (the siren of myth >> the siren of instrumentation >> the siren as public address), and by analyzing the institutional infrastructures that the construct of the siren presupposes. These include a highly rational social organization that values particular notions of law, order, and the public wellbeing; the existence of political and economic infrastructures of emergency response; and most importantly, a responsive, *hearing* public. These are the keynotes of a modern society. Within this context, the sound of the siren is the sound of *power*; in responding to its voicings, citizens demonstrate their obedience to its authority. If sounds are syntax through which individuals express their relations to the community, then the siren is the sound of *civil obedience*. And so very naturally, the sounds of the siren have emerged as elements of artistic production and musical composition, where they are often reconstituted as voices of civil dis-obedience.

In analyzing the historical and contemporary American soundscape and the siren's role within it, we gain insight into the ways that modern societies are constructed with sound. The ultimate goal is to construct an acoustemology of contemporary society through the sound of the siren, a pervasive technology of public address. Deep listening to the siren reveals the multiple layers of meaning embedded in its voice.

## The siren in history

The syren of classical mythology was “one of several fabulous monsters, part woman, part bird” who were supposed to lure sailors to destruction with their enchanted voices (OED). In 1819, the French physicist Baron Charles Cagniard de la Tour, after improving upon Scottish physicist John Robison's earlier design, described his new Syren, an enchanting acoustic instrument which was capable of generating and measuring musical tones of varying frequencies (Kenyon, wiki siren). The Syren consisted of a rotating disc, pierced with holes, which interrupted a stream of pressurized air, causing fluctuations in its flow. Such waves of pressure, of periodically compressed and rarefied air, are in fact the physical basis of sound; the rate at which the air pressure fluctuated (i.e. the rotation rate of the disc) defining the pitch (frequency) of the tone produced (Kenyon, wiki siren). In 1820, the *Annual Register*, a British historical chronicle published annually since 1758, announced “The Syren, a new Acoustical Instrument... In consequence of this property of being sonorous in the water the instrument has been called the Syren” (OED). The Baron's syren was soon followed by more complex forms, including German physicist Hermann Helmholtz's ingenious double sirène of 1860, which he used to illustrate interference and beat phenomena (Kenyon).

By 1879, an analogous instrument, built on a similar principle but of a larger size, was being used on steam ships for issuing signals and fog warnings. The ship's siren was driven by steam or compressed air, which was forced through a fixed flat disc fitted to the throat of a long trumpet (OED). As electricity became available early in the twentieth century, the first electromechanical fire sirens were produced. (Fire volunteers had previously been summoned by the ringing of a bell) (wiki siren). Two early manufacturers of fire sirens were Federal Signal and Sterling Siren; both began production of fire sirens between 1900 and 1905.

Sirens were employed as motor horns until about 1915, when their use was limited to police and fire vehicles (NYT Rules). It was in 1933 that New York City automobile and taxicab drivers were first required to “draw up to the curb and come to a halt” at the sound of police siren—a regulation made because police cars “had incurred a number of accidents as a result of obstruction by traffic when speeding to answer a call”. Three months previously, police cars had been equipped with “extra-loud sirens”, which, unfortunately, had failed to reduce the number of accidents. (NYT Autos Must Halt).

A siren-based system for warning British civilians of an aircraft-based enemy attack was developed in London in 1938, and air raid sirens first sounded warnings in London in September 1939. Air raid sirens became an almost daily part of life—keynote sounds—in London during the height of the Blitz (BBC). In 1940 the Irish dramatist Sean O'Casey wrote “We have a kind of a cellar that we are to go to when the siren sounds” (OED). Air raid warning systems were developed and tested in the United States during the 1940's and 50's (NYT multiple), but were never put into actual use. After the end of the Cold War, American air raid siren systems increasingly fell into disuse or were converted to tornado warnings (wiki), and the air raid siren became a *chronotopic* sound, one that maps time in space. In the public imagination,

its wail is intimately linked with WWII London. Today, electronic sirens employ oscillators and modulators to synthesize siren-like tones which are amplified and broadcast through external speakers; they are ubiquitous on modern emergency vehicles.

## The siren in the soundscape

Like the sounds of water and birds in the rainforest (Feld 225), the sounds of police, fire, and emergency sirens *permeate the body* of the modern city. Because sirens are *signal* sounds, they must rise above the *keynotes* of the metropolitan soundscape: outdoors, the internal combustion engine (Schafer 82); indoors, the sounds of HVAC and the 60 Hz hum. The sound of the siren, therefore, must distinguish itself both in character—in being the antithesis of a “flat line sound” (Schafer 79)—and in intensity, in simply being louder than most everything else. Modern-day sirens have a characteristic wailing oscillation that centers around 440 Hz, and exert sound pressures on the order of 110 to 120 dBA, intensities on the scale of thunder and lightning, “the most feared forces in nature” (Schafer 25). The sound of the air raid siren, which can reach pressures of a literally ear-splitting 138 dBA, lies far outside the scale of human soundmaking. It is a truly *mighty* noise that “bridges the gulf between men and the gods” (Schafer 25).

If the sounds of emergency sirens map the metropolitan soundscape—emplacing origins and terminations, localizing comings and goings and centers of human activity—they also feature prominently in rural and regional soundscapes as well, where they alert listeners to fires, emergencies, and natural disasters such as hurricanes, tornados, and tsunamis. Lastly, the sounds of sirens are conspicuous features of geopolitical soundscapes; the sounds of air raid and civil defense sirens penetrating, reflecting, and unifying the bodies of entire nations and geographic regions. The sounds of air raid sirens, like the sounds of war and religion, are truly eschatological in scale (Schafer 50, see [1]).

In every soundscape in which it voices—metropolitan, regional, and geopolitical—the sound of the siren is centripetal (Schafer 54, 56). Like a clock or bell, a siren regulates and unifies a community. But sirens, unlike clocks and bells, cannot simply be *heard*. Sirens carry the harmonics of deference, and must be localized, attended to, *listened to*. Sirens, because they powerfully alter our behavior, become human agents, sonic architects of the modern social order.

## An audiocultural inheritance

Most of us probably cannot remember when, as very young children, we began to learn about sirens—or have even considered the idea of that we *needed* to learn about sirens. Sirens, and the right way to behave with to them, were simply something we...always knew. Anthropology teaches us that such apparently commonsense responses are often fruitful subjects for cultural critique. A social phenomenon that cannot be explained is a social phenomenon of great power. We first learn about sirens very early in life; ample evidence can be found in the picture books enjoyed by the young (Fig. 1). Compelling arrays of emergency vehicles and responses, in fact, figure quite prominently in much popular children's literature (Fig. 2). If anthropology's task is to “make the strange familiar, the familiar strange” the rich symbolism of the siren seems fair game. What is it that makes the siren “a sound that matters”?

## The siren as experience

How does the siren figure in the sonic ecology of the modern city? The siren is a *loud* sound, a *technological* sound (Schafer 73), an *imperialistic* sound (Schafer 77), a *plaintive* sound. Its sound rises bravely, inexorably above the aural congestion (Schafer 71) of the lo-fi post-Industrial Revolutionary city soundscape, making itself heard night and day. Unlike other urban noises such as bells, honks, yells, and

[1]. I propose a broad aural category, “eSchaferotological sound”, to denote any auditory phenomenon that might be linked, however causally or casually, to the perceived post-Industrial Revolutionary decline of all human civilization. Also see anostalgia, paradise lost.

whistles, the sound of the siren cannot simply be ignored. The ear must actively grab the sound of the siren from its sonic environment (Schwartz 487). This auditory extraction—the first step in the appropriate social response to the sound—is no simple perceptual task, and the auditor, especially if he is in motion himself, often experiences significant anxiety and confusion as he endeavors, in all earnestness, to locate the source of the sound. His confusion may persist for many harrowing seconds—especially if more than one siren is sounding—and can only be completely relieved when the *sight* of the siren and vehicle provides clear (visual) evidence of its location and vector. Audiospatial confusion resolved, the requirement for further action now becomes clear. Those unfortunate citizens who stand in the path of the oncoming siren must, immediately, yield full right-of-way, freezing like rabbits in full sight of a hungry predator. The tension mounts as the siren approaches; the auditor winces and bows his head. Then the emergency vehicle passes, uneventfully, and the sociospatial rift it created is quickly annealed. The auditory participants, returned to their routine, may feel comforted by their own safety and good fortune, and indulge in the guilty pleasures of *schadenfreude*. The siren has thus enacted a sonic transformation-catharsis of its hearing public; an auditory experience which as shared ritual intimacy serves to strengthen the social fabric of the community.

The siren is thus endowed with a social ability, almost unparalleled in contemporary secular life, of altering in the space of a moment the behavior of an entire community. Paul Stoller, in *Sound in Songhay Possession*, shows us how sounds relay power. Like the cries of the *godji*, the siren is a force that literally *moves* people. Although individual citizens may or may not attend to the personal tragedy attached the sound of a siren, they must attend to the demand for increased awareness and deference. The voice of the siren is thus much larger than the sound itself. The siren is a code all modern participants understand (Schafer 47); the symbolic meaning of the siren lies in its ability to alter our behavior on a cultural scale.

## **Auditory cartographies**

The sounds of the siren, in the way that they absorb and reflect from the surfaces of the modern metropolis, share many characteristics with the sounds of the tropical rainforest described by Steven Feld in his poetic cartography of the Kaluli tribe of Papua New Guinea. In the tropical rainforest, “acoustic revelatory presence is always in tension with visual hidden presence”; or to put it more simply, things in the rainforest are often heard, but not seen. In the rainforest, height and depth are easily confused, and upward feels like outward, making sounds difficult to locate. The modern city, like the rainforest, abbreviates the facility for seeing and hearing (Schafer 43), and auditory presence seems to dominate the visual: things in the city are often heard, but not seen. City sounds echo and reflect off the geometric planes of tall buildings, making outward feel like upward; the fluid and ambiguous relations between the city’s spatial and temporal dimensions make individual sounds in the city (especially moving sounds) extremely difficult to locate.

For the Kaluli, “the sensory tension between the seen and heard, the hidden and revealed, is poeticized in the synesthetic metaphor *lift-up-over-sounding*. The auditory environment of the modern city might, in turn, be poeticized by the popular term *surround-sound*, a name the audiophile attaches to the technological attempt to reproduce the effect. The surround-sound of the city, e.g. the experience of multiple sirens sounding, is like lift-up-over sound: “in synchrony but out of phase”, “not in unison but simultaneous” and “cacophonous”. The surround-sound of the modern metropolis, like the lift-up-over-sound of the tropical rainforest, is dense, multilayered, overlapping.

## **A call to community**

As discussed above, sirens are centripetal sounds, unifying and regulating the community. In fact the siren, as the *voicing* of a community, plays an essential role in the very *creation* of the community, in the very formation of a *public* identity. The reciprocal relationship between voicing and identity (Feld 226)—in which voicing authorizes identity, and an identity, in turn, authorizes voice—implies that a public voicing (like a siren) can help to create a public identity (like a state), and that the two entities mutually reinforce each other. The community hears itself in the voicing of the siren; the act of attending to the siren voices the community’s collective identity.

A siren is thus a thing that *cultivates* the very notion of a public (and of a public soundscape: see [2] below). A siren is a “we-thing”, and as a “we-thing”, it is deeply implicated in the relationships between members of a community. For in defining the very notion of “we”, we run into the problem of “them”. If we are the public, what (or who) then, is the public enemy? Fires, injuries, natural disasters, to be sure, but what about liminal and distal portions of the body public itself? Young people, dark people, people who act different? At the same time the sound of the siren works to define a community, paradoxically, it also fragments it. An inside makes an outside, a public makes a private. So a community is heterogeneous in its attitude to the siren—some sense comfort, others threat—and, to a lesser extent, heterogeneous in its response to the siren: some comply, others resist. Different subcultures experience the sound of a siren differently. A public address system addresses not one, but many publics.

## **The siren song of modernity**

### ***The siren and the state***

In his 1977 work *The Soundscape*, Murray Schafer elucidates the intimate relationship between sound and the state: “The general acoustic environment of a society”, he says, “can be read as an indicator of social conditions which produce it, and may tell us much about the trending and evolution of that society” (Schafer 7). As part of a complex cultural response to states of emergency, the construct of the emergency siren presupposes a multiplicity of institutional infrastructures: sophisticated systems for the detecting and responding to injuries, fires, crimes, and civic emergencies; telecommunications infrastructures; medical care and criminal justice systems; and a wide array of complex technologies to populate these systems. Not to mention an economic infrastructure to support the emergency regime.

A siren is thus a hallmark of a highly rational, organized, and regulated society: a society that holds particular, expansive notions of law and orderliness; a society which shares a certain conception of an emergency, and a belief in a certain proscribed way of dealing with the threat. These characteristics are hallmarks of a *modern* society, in the 19th-20th century sociological sense of the world (Helmreich lecture). Modernity's obsessions lie with rationality and order, because rationality and order will help us to understand--and to control--the world. In the context of emergency response, modernity asks: What level of threat actually constitutes an emergency? In the face of emergency, what is the appropriate response of the citizen? Of the community, of the state? In the background of an increasingly diverse and mobile society, how can an acceptable uniformity of emergency response be achieved? Modern society attempts to define responses to these questions, and to create structures and institutions that enable its response. But these responses are contingent, just one of many possible configurations.

### ***A standard emergency response***

Murray Schafer sees the honoring of traffic codes as the hallmark of “societies that have experienced the Industrial Revolution and mechanized warfare” (Schafer 83). Although this is a sweeping statement, the early decades of the twentieth century did in fact see the increasing standardization of traffic codes and emergency response, especially in metropolitan areas. In 1915, the use of sirens was restricted to fire and police vehicles in New York City, part of a larger effort towards standardizing traffic codes (NYT Rules). By 1937, Great Britain had developed a system that enabled citizens to dial a single three-digit telephone number when reporting emergencies. The United States Congress considered the idea in 1958, and passed

[2]. In a very real sense, Cagniard de la Tour's siren laid the sonosymbolic groundwork for Job's iPod. Without a widespread notion of a “public soundscape”, the “revolutionary” reversal of the soundscape promised by the iPod -- with its notion of “private sounds” and “private soundscapes” -- would never have been possible. The iPod works to privatize the public soundscape; the siren works to publify the private soundscape. So the two technologies are symbolic opposites, with opposing goals.

a legal mandate in 1967 (911 History). The development of the Emergency Broadcast System in 1963 represented another step towards the realization of an abstract vision of a safe society; EBS television test messages were broadcast at least weekly during that period, and became part of the American cultural fabric of the era:

*This is a test of the Emergency Broadcast System. The broadcasters of your area, in voluntary cooperation with the Federal, State and local authorities, have developed this system to keep you informed in the event of an emergency. If this had been an actual emergency, the Attention Signal you just heard would have been followed by official information, news or instructions. This station (optional -- insert station call sign) serves the (operational area name) area. This concludes this test of the Emergency Broadcast System.*

Efforts at strengthening and standardizing the system of emergency response were driven by a modern democratic impulse: safety and security for all. The standardization of emergency response implied that an increasingly mobile American public would enjoy the same level of civic safety and comfort anywhere in the nation, and more importantly, would be aware of the appropriate response in the event of an emergency. Like the sounds of late nineteenth-century symphony halls, the emergency soundscape of one American town became more and more like the emergency soundscape of any other (Thompson). In standardizing the soundscape of civic safety, control was key—the experience of the siren, like the symphony, was not meant to be fun (Thompson 49).

### ***The siren and the citizen***

From an acoustic ecology we can learn how man behaves with sounds and how sounds affect and change his behavior (Schafer 4). How has man behaved with the siren, and how has it affected and changed his behavior? Over the course of the twentieth century, American citizens learned first to trust in, and then to rely on, the sociocultural ideals symbolized by the sound of the siren: an abstract notion of an always-ready infrastructure of succor and support, and benevolent protection against medical emergencies, crime, natural disasters, and acts of war. As an infrastructure of emergency response developed, so did a willing (and hearing) public. Both elements were necessary components of the meaning of the sound of the siren.

### **Safe and secure?**

The siren signaled not just modern society's ambition for order and rationality but a deep social desire: that for physical and emotional security. Although the sound of the siren threatens momentarily, it comforts existentially, because it signifies that *the system is working*. The desire for community safety and security was perhaps no more conspicuous in the United States than in the decades surrounding WWII. This distention of desire for public safety was paralleled by a fascinating increase in the sheer physical size and decibel level of sirens manufactured during that era.

The phenomenon of the air raid siren began in Europe in 1938, with the development of the London air raid warning system; the sounds of air raid warning systems became very familiar to those living in large cities. The sirens were placed atop tall buildings, or poles if no suitable buildings could be found, and produced two signals: the first a warning—a rising and falling note created by varying the power of the siren—and the 'all clear'—a single, continuous note (BBC).

In the United States, air raid sirens of increasing size and intensity were developed and tested during the 1940's and early 1950's. 1952, during the Cold War era, saw the pinnacle of the siren's auditory might: the 180HP V8-Hemi engine-powered Chrysler Air Raid Siren, which registered 138 dB at 100 feet (Victorysiren.com). Known as the "Big Red", the new Chrysler siren—the loudest ever produced—was six feet tall, twelve feet long, and weighed 5500 pounds (see Figure). Air raid sirens had become true *sky noises*, sound that could not be localized or contained (Schafer 86). Of architecture, Joseph Henry has said: "It is only when a building expresses the dominant sentiment of the age, when a perfect adaptation to its use is joined to harmony of proportions and an outward expression of its character, that it is entitled to our admiration" (Thompson 28). Sirens, too, can express the dominant sentiment of their age, and the growth in size and decibel level of sirens in production after WWII speaks volumes about the psyche of Cold War American society. Listening back in time, we can hear the level of concern for American safety with perfect clarity.

The Federal Civil Defense Act of 1950, which provided the Federal Civil Defense Administration with the statutory authority for civil defense planning, sheltering, and evacuation, was as much a *cultural* measure as a public safety measure. The intent was to stoke the fires of democracy and patriotism. In her work *The Soundscape of Modernity*, historian Emily Thompson describes how romantic notions of the ennobling nature of music became attached to the sound of the orchestral symphony in late nineteenth century America (Thompson 46). In the same way, romantic notions about the ennobling nature of democracy—and the blasphemy of communism—became attached to the sound of the air raid siren in the decades following WWII. In taking the measure of an ideal symphony hall, that the desire to control sound production was a manifestation of the modernist desire to control the audience (Thompson 46). Similarly, the desire to create air raid networks was paired with the desire for an orderly civilian populace, and the civilian populace's own desire for orderliness.

The nineteenth century, according to Thompson, saw the development of a musical culture that was “almost religious in its intensity, in which listening became a way to worship” (Thompson 47). Campaigns were undertaken to educate Americans to appreciate “great” music, and to approach it with humility and respect (Thompson 48). Likewise, the years after WWII saw the development of a patriotic culture almost religious in its intensity, in which doing one's civic duty became a way to worship; campaigns were launched to educate Americans about patriotism and their new civic duties, which were to be approached with humility and respect. Finally, if the new home for the Boston Symphony Orchestra “embodied a romantic, even religious dedication to symphonic music that characterized elite culture in turn-of-the-century America” (Thompson 14), the gargantuan Chrysler Air Raid Siren embodied a romantic, even religious devotion to civil defense that characterized post-WWII America.

The many parallels between two such unlikely phenomena as the development of architectural acoustics and the establishment of air raid siren networks simply illustrate the degree to which both phenomena were outgrowths of the modern project. If acoustics became important because *listening* had become important, so did air raid sirens become important because protecting *us* had become so important. By listening carefully to the sound and meaning of the emergency siren, we can begin to comprehend the complex conjunction of politics and public sentiment that constituted a phenomenon and a moment in America's cultural history (Thompson 18).

## Civil obedience

Schafer points out that the German word *horen*, “to hear” is the root of *gehoren*, “to belong to”, and *gehorschen*, “to obey”. We hear sound, we belong to sound, we obey sound (Schafer Open Ears 30). The sound of the siren, as a sound that makes itself heard over other sounds, is endowed with an extra-ordinary amount of power. Bruce Smith, in *Tuning into London c. 1600*, speaks of finding a syntax for sounds, of discovering how people order sounds, and the ways they use them to position themselves in the world (Smith 131). The sound of the siren is an *imperative*; in responding to the imperative, citizens demonstrate their willing hearing, belonging, and subordination to its issuer—the civic authorities. The sound of the siren is a syntax through which citizens place themselves relative to the authority of the state. In sounding the siren, the state asserts itself over its domain. In responding to the authority of the siren, citizens recognize it as a sound of *civil obedience*.

### *The politics of sirens*

If the sound of the siren is the sound of power, its syntax of civil obedience, exactly who is entitled to make a siren sound? The early decades of the twentieth century saw the increasing regulation of individuals and institutions legally entitled to utilize the siren to impel others to stop, listen, and obey. The ship's mate and the motor car driver yielded to the policeman and the fireman, who in their turn yielded to the agents of Civil Defense. In December 1941, the use of sirens in New York City was limited to fire trucks in order “to reduce the confusion if an air raid signal should be given”. Police cars and ambulances were directed to use gongs to clear traffic (NYT police sirens curbed). By 1950, the sirens on fire trucks had been banned as well, in order “to avoid confusion with air raid alarms.” The ban on fire and police sirens was finally lifted in 1953, after complaints that police and fire vehicles were frequently delayed in responding to calls

“because of an ‘apathetic spirit’ by civilian and vehicular traffic to the less imperative warning bells and whistles.” (NYT Fire and Police to Return).

## Noisy relations

Where might the sound of the siren fall on the continuum between *sound* and *noise*? That would depend on which particular acoustic ecologist or soundscape scholar you happened to ask. For R. Murray Schafer, noise is sound “we have learned to ignore” (Schafer 4). If our ability to ignore the sound of a siren is a function of our position relative to it, our conception of the siren as sound or noise must be mobile as well. Enroute to a picnic in the park, the siren on the oncoming fire truck would demand all our attention; its voicing, at that moment, would constitute sound, not noise. Once we arrived at the park, however, we could safely ignore the sound of a siren; its sound would, at some ill-defined moment, become reconstituted as noise. In Schafer’s more extended Apollonian-Dionysian philosophical system, the siren might be cast as a sort of chimeric dystopic-utopic auditory being: an imperialistic, unnatural, post-Industrial Revolutionary sound, but the welcome agent of an orderly Apollonian soundscape, all the same.

Schafer might also place sirens in the special sonologic category of Sacred Noises, which by virtue of their association with divine power, have throughout history been “absent from the lists of proscribed sounds which societies have from time to time drawn up” (Schafer 51). The siren, like the church bell, has in fact been since its introduction relatively immune to anti-noise legislation, a hallmark of a modernizing state (Thompson 126). In those cases where the sounds of sirens have been regulated, the goal has generally been to limit their use to increasingly higher-ranking civic authorities (Schafer 67). “Wherever noise is granted immunity from human intervention,” notes Schafer, “there will be found a seat of power” (Schafer 76). After the Industrial Revolution, Sacred Noises, once the exclusive province of the church, “sprang across to the profane world” and began to emanate from industrialists—and evidently, from modern states. According to Schafer, the association of noise and power has never been broken in the human imagination (Schafer 76). If the study of noise legislation reveals social attitudes (Schafer 67), when (if ever?) have people resisted the noise of the siren? Will tomorrow’s citizens resist the sound of the siren in the future?

For Aden Evens, author of *Sound Ideas*, noise is deeply implicated in its relations with music. In order to extend his philosophy to an analysis of the sound of the siren, I shall define the city soundscape as the sonic universe, and the sound of the siren, the sound or music within it. For Evens, city noise is the inarticulate, confused mass of vibration in which the sound of a siren relaxes and dissipates (Evens 14.5). Human perception *contracts* the sound of the siren into sense, but the noise of the city is un-contracted. The noise of the city binds the signal of the siren, serving as its medium, its baseline, the plane of relief against which the siren stands out.

City noise is thus the *reservoir of sense* of the siren. The noise of the city is implicated (necessarily interwoven with) the sound of the siren; the sound of the siren is explicated (made clear) by the noise of the city. City noise is the reserve of sense that gives the siren its force. Just as the concert piano draws expressive power from the force of the concert hall, the siren draws expressive power from the force of the cityscape. The concert piano is a tool for shaping the sound of the concert hall; the siren is a tool for shaping the city noise, contracting parts of it into perception. The hearer of the siren is like a sculptor who attends at once to the siren and to the relaxed cityspace around him (Evens 16.7).

In a third philosophy of sound and noise, which draws on the ideas of Evens (with illuminations from Lenoir), I imagine sound as *conditioned* by noise in the same way that sunlight is conditioned by stained glass in the medieval cathedral. In the same way that wavelengths are subtracted from light as they pass through stained glass, something of any sound is lost to the noise around it. Yet conditioned sound, like conditioned light, has more meaning and vitality for the process. The sound of the siren is conditioned by the noise of the city, and the sound of the city conditioned by the noise of the siren. The reciprocal exchange between siren and city animates the body of the modern metropolis.

## Ambivalence and resistance

In naming his acoustic invention, Baron Cagniard de la Tour is said to have been inspired by its property of being sonorous under water, and by the singing quality of its voice. Hence, the Syren. But could Cagniard de la Tour have “blindly” disregarded the complex metaphorical meaning of the Syren: she who sings sweetly, but beguiles and deceives? Conscious or not, Cagniard de la Tour’s choice of the name was certainly a prophetic one, for the metaphorical meaning of the Syren—which engages the binary poles of attraction and repulsion, candor and deceit—is so neatly echoed in the ambiguous power of the modern instrument. The siren of myth promises sex, then offers death; the siren as instrument promises security, then serves oppression. Both sorts of sirens are the objects of deep cultural ambivalence, and both, the muses of artistic inspiration.

Schafer (40) and Feld (225) have commented on the tendency of peoples to echo their soundscape in their language and music. And so, from their earliest appearance in the soundscape, sirens have found their way into works of art and music. Because the siren is so deeply embedded in relations of power, however, the use of the sirens as elements of musical composition goes far beyond the mere echoing of the artist’s soundscape. Sirens in music are often the sounds of the *resistance*, a form of reverse sound imperialism. This resistance may be directed towards dominant artistic conventions, e.g. the sirens of George Antheil’s 1924 Dada piece *Ballet Mécanique* or Edgard Varèse’s 1929 *Ionisation*; hegemonic social or political regimes; or the anxieties of modern life (Bob Dylan’s 1965 *Highway 61 Revisited* and The Crystal Method’s 1997 big beat *Busy Child* (track 3, also footnote [3]).

Siren sounds in music represent neither sound nor noise, but activated creative elements. The house DJ samples the sound of the police or air raid siren, reversing its power in order to amplify and electrify her creative statement; Max Neuhaus’ 1980’s siren project seeks to reshape the soundscape of the city; The Beastie Boys’ turntable tricks and Midfield General’s sampled sirens recall the close-range urban bustle. The right to use the siren to move and motivate the public has always been in the hands of the artist.

## Acoustic inversions

Schafer draws our attention to a phenomenon I call an acoustic inversion, an instance in which shifts in the perceptual habits of society cause *auditory figure* and *ground* to exchange roles (Schafer 98). Figure and ground have, in fact, exchanged roles in the historical soundscape of the siren, but the effect was not the result of shifts of perception, but of apocalyptic shifts in actual conditions. When the frequency of emergency sirens (and so of emergencies) increases to the point at which the figure of the siren is transformed into ground, we have achieved the acoustic inversion of the siren, otherwise known as war. This horrifying conception, when siren’s signal becomes keynote, recalls the sonic reality of WWII London, or modern Baghdad. When the signal-to-noise ratio reaches 1, Schafer says, it is no longer possible to know what, if anything, is to be listened to (Schafer 71). War is the ultimate lo-fi landscape.

## Deep history

Why did the sound of the siren, in particular, find a foothold as a sound of public address? What was it about that *particular* sound—its plaintive, modulated note—that helped it to become an über-linguistic signifier of civil obedience? (Erlmann 61). The world is filled with sounds: loud sounds, technological sounds, imperialistic sounds, any of which might have fulfilled the prescribed social role. Was the siren simply in the right place at the right time, a mass-produced sound-making electronic commodity, which happened to find a home in the infrastructure of civic authority... and so atop emergency vehicles and rooftops across the land?

[3] The Crystal Method are said to have done their early musical production in an underground shelter referred to as “The Bomb Shelter”.

It seems unlikely. Perhaps if we *listen deeply* to the sound of the siren, to its plangent, wavering fundamentals and harmonics, we may find an answer (track 1). *Clairaudience* may help us to *unear* an ancient sound, an ancestral form of public address, a sound that has lain claim to territory, reaffirmed social bonds, and defined the space of the community from a thousand lonely ridgetops of time. From deep memory, we may retrieve the howl of the wolf (track 2).

Schafer likens the sounds of police sirens to the alarm calls of birds (Schafer 33), but I do not concur. Not only does sound of the siren—in frequency, timbre, and modulation—simply sound more like a howl of the wolf, but the meaning and symbolism of the two vocalizations are neatly congruent. The howling of wolves is believed to play multiple social functions: coordinating movements among pack mates, strengthening the social bonds between them, and establishing the spatial boundaries of the pack (Mech). The sound of the siren, too, coordinates the movements of citizens, strengthens the social bonds between them, and establishes and defines the boundaries of the community. Both the howl and the siren are the syntax through which individuals position and define themselves relative to their group.

Schafer notes that definition of space by acoustic means is much more ancient than the establishment of property lines and fences (33). In the call of the wolf, he allows, “...we encounter a vocal ritual which defines the territorial claim of the pack to an acoustic space---in just the same way as the hunter's horn lays claim to the forest or the church bell to the parish” (39). And, so by extension, the siren lays claim to the neighborhood, the precinct, and the nation-state, defining power and authority and right-of-way within it. As wolves respond to the howl of the alpha-male, modern citizens respond to the vocalizations of the state. Hearing is *touching at a distance* (Schafer 11), and the wolf pack howls to stay in touch. Sirens, like howls, touch the civil body over a distance.

Canines instinctively recognize the sonosymbolic kinship between howl and siren, yet we are often amused when neighborhood dogs howl at the sound of a passing fire truck. But it is we, not the dogs, who fail to grasp the meaning of the event; we who must examine the meaning of our misinterpretation. In our anthropocentrism, we see the howling of dogs as (mostly inadequate) imitations of the sound of the siren; it is in fact our own species that routinely produces feeble imitations of the voicings of wolves.

The auditory congruence of howl and siren supports the general hypothesis that man echoes his soundscape (Schafer 40, Feld 225), but in the instance of the siren, we find evidence for the *symbolic echoing* of the soundscape. The *mechanical howl* has the same meaning and symbolic purpose as the original. The reproduction echoes the original—in frequency, modulation, and timbre—and in symbolic intent.

Was it mere coincidence that a mechanical howl came to serve as a signal in the dense city soundscape? Certainly, a striking, penetrating sound was required. Ethologists tell us that lower-pitched, harmonically simple tones like the howl carry best over long distances, that modulated tones are easier to localize (Mech 77). Schafer writes of modern society's *synthetic soundscape*, in which natural sounds are becoming increasingly unnatural, while man-made substitutes are providing the operative signals directing modern life (Schafer 91). It is fascinating that our rational, modern state has chosen the haunting, almost supernatural song of the wolf as the song of civil obedience.

## Listening for the future

Modern society becomes increasingly more diffuse, yet the siren still evokes a surprisingly unified cultural response. But the authority of the siren, like all cultural constructs, is contingent, and may increasingly be resisted and challenged in the future. 2007 saw the introduction of a new breed of siren: a siren that *rumbled* the ground.

*The Rumbler introduces a revolutionary new concept to audible warning. This system has the ability to interact with 100/200-watt siren amplifiers and provide secondary, low frequency duplicate tones. Low*

*frequency tones have the distinct advantage of penetrating and shaking solid materials allowing vehicle operators and nearby pedestrians to FEEL the sound waves, and perhaps even see their effects through a shaking rearview mirror. (Illinois Fire)*

If sirens, like works of architecture, are expressions of the dominant sentiment of the age, what is the meaning of the Rumbler? What is the meaning of the city's increasing ability, through the use of sophisticated video networks, to surveil its citizens in an historically unprecedented way—opening the door for a brave new era of Urban Panopticism (Dochtermann). Do these phenomena represent the advances of an increasingly controlling, aggressive state? Or are the shifts situated in the realm of the hearing public, which in mounting an increased *resistance to listening*, drives the state to feel the need to “raise its voice” to be heard? Perhaps the displacements are occurring on both sides. Civil obedience is a two-way dialog: will the State and the Public of the future continue to hear each other as they have in the past? Perhaps we can look to Homer's narrative for clues. After Odysseus' successful encounter with the Sirens, the episode concludes with these lines:

*So all rowed on, until the Seirênês  
dropped under the sea rim, and their singing  
dwindled away.*

(252-4)

Odysseus faced the challenge of the Sirens by stopping his men's ears to the sound. If we would take the measure of man, we would do well to attend to the sound of the siren.

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The fact that subliminal messages have gone public does not mean covert messages have become extinct. In department stores there may be the subliminal sound of jail doors slamming or police sirens wailing to deter shoplifters... "What's New in Subliminal Messages" *New York Times*, 20 Mar 1988.

## Accompanying Media

The following content was part of the project documentation, but has been removed for OCW publication due to copyright restrictions.

## Images

Early siren design

<http://www.gardenvariety.org/projects/lucier/booklet.html>

Federal Signal Thunderbolt Model 1003

[http://en.wikipedia.org/wiki/Thunderbolt\\_siren](http://en.wikipedia.org/wiki/Thunderbolt_siren)

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Chrysler Air Raid Siren c. 1952

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Madeline book image by Ludwig Bemelmans

[http://onoloa.net/16456/7101.html?\\*session\\*id\\*key\\*=\\*session\\*id\\*val\\*](http://onoloa.net/16456/7101.html?*session*id*key*=*session*id*val*)

*"In a car with a red light they drove out into the night."*

- Ludwig Bemelmans, Madeline, 1939.

Richard Scarry's Best Word Book Ever

[http://en.wikipedia.org/wiki/Best\\_Word\\_Book\\_Ever](http://en.wikipedia.org/wiki/Best_Word_Book_Ever)

Richard Scarry's 1963 classic *Best Word Book Ever!* features ten emergency vehicles and twenty one sirens.

## Video

Air raid siren: Federal 2001 from Williamson, TN

[http://www.williamson-tn.org/co\\_gov/depts/ecc/siren4.mpg](http://www.williamson-tn.org/co_gov/depts/ecc/siren4.mpg) (1.2 MB)

Wolf howl sonogram: "A Lonesome Howl" from NOVA Online | Wild Wolves | What's in a Howl

<http://www.pbs.org/wgbh/nova/wolves/howl.html>.

## Audio

The Crystal Method, "Get Busy Child."