Radiophonics of the Vietnam War: A Collection

Jan Philip Müller

Wilderness Radio

In a text titled “Radical Radio” Murray R. Schaeffer writes:

“A few years ago Bruce Davis and I had an idea for what we called Wilderness Radio. The plan was to put microphones in remote locations uninhabited by humans and to broadcast whatever might be happening out there: The sounds of wind and rain, the cries of birds and animals – the uneventful events of the natural soundscape transmitted without editing into the hearts of cities. It seemed to us that since man has been pumping his affairs out into the natural soundscape, a little natural wisdom might be a useful antidote.”[1]
‘natural’ sounds are broadcast through the technology of radio, they are split from their ‘original’ and ‘natural’ context and become “schizophrenic”¹, imperialistic sounds invading the sonic space of the city, potentially drowning out other communications and thus threatening to actually intensify the cacophonic quarrels. Such sounds are not simply good and natural anymore, but can become a poison that – as Schafer suggests – can, in turn, act as an antidote. It is maybe these kinds of oscillations and iridescences – between nature and technology; between non-determinate processes of political disagreement and a technocratic logic of feasibility by engineering environments as cybernetic systems; between signal and noise; between sounds ‘themselves’, and their media and milieux; and between their meaning and their sonic or auditive properties – that are the most interesting and productive moments in Schafer’s writings.²

Radiophonics of the Vietnam War: Becoming Environmental

The following collection of stories and materials relating to radiophonic situations of the Vietnam War is drawn together by an interest in similar ambiguities of sonic spatialities. The Vietnam War is happening around the same time that Schafer starts to elaborate the concept of the soundscape, and its history seems – as (not only) “Apocalypse Now” suggests – to offer itself to be told in hi-fi- and surround-sound.³

But Wilderness Radio is one of the many moments in Schafer’s texts in which things become more complicated, rhetorical, polemical: when the

---

¹ Schafer writes this in 1982, but he had started developing his concepts of acoustic design, acoustic ecology and the soundscape in the late 1960s and the 1970s. In this conceptual work there seems to be a tendency to reify certain dichotomies that stick together and form hierarchies of values. To put it very simply, there is an order implied between the good communicative sounds, in the dynamic harmony, ecological balance and unity of the natural quiet ‘hi-fi’ soundscape on one side; and the bad, aggressive, technologically transmitted and amplified noises, competing in the cacophony of fragmented urban ‘lo-fi’ soundscapes on the other side. Schafer’s work has been the subject of critique, often along similar lines as roughly outlined here.⁴

² But Wilderness Radio is one of the many moments in Schafer’s texts in which things become more complicated, rhetorical, polemical: when the
What historically connects these stories to Wilderness Radio and the discourse of acoustic ecology could then maybe called a ‘becoming-environmental’ of sound. The scope of this – associative, coarse and preliminary – sketch of a shift in sonic relations would be a kind of topology of sounds “that explores the possibilities and properties of different forms of continuous transformation – and the different spaces which express or allow these”: a Euclidean space, a geographical or territorial space, an acoustic space of physical parameters, a Hertzian space of electromagnetic waves, a space of communication common to a group of individuals, a network space of socio-technical infrastructures, a political space of disagreement and of making oneself heard, and so on.

This sonic topology could then account for how these different ‘spaces’ are differentiating from one another by thinking about sounds as simultaneously appearing in different spaces and thus mediating between these spaces; or – turning the perspective around – one could ask how these spaces are actually performed, actualized by sounds, and how these sounds – by being describable in terms of different parameters and qualities in each of these spaces – connect and set them apart at the same time. This historical shift in sonic relations could then take place as a reconfiguration of how different spaces or spatialities are connected and split apart by sonic practices, techniques and technologies and how this in turn, (re-)introduces certain complications in these spaces, destabilizes relations that had allowed to knit and map these spatialities onto each other, and intensifies their ambiguities or oscillations.

**Good Morning Vietnam**

In the Vietnam War, radio in its classical structure of broadcast entertainment is a sonic playing field in which the cultural, social and political spatialities of American soldiers abroad are at stake. Two voices can be taken as exemplary for the opposing polarities in this contested spectrum of the GI’s “hearts and minds”.

**Link to video**

*(Cramer Haas: Good Morning Vietnam)*

*(“Dawnbuster” with John Allgood (1972), 42 min. [http://www.afvn.tv/audio/dawnbuster.mp3](http://www.afvn.tv/audio/dawnbuster.mp3)*

*(Adrian J. Cronauer SSgt, USAF DJ, Saigon 1965-66)*

On one side there would be John Allgood and...
Adrian Cronauer at the Armed Forces Vietnam Network (AFVN) with their notorious “Gooooooood Morning Vietnam” to start the day. What AFVN aimed to create was not just Vietnam or ‘in’ Vietnam, but also something like ‘home’:

“We gave the guys as much stateside sound as in WABC – which was then the god of all AM radio stations in the United States – right in the middle of Vietnam. Not talking about the war… talking about other things, so the guys can turn it on and constantly have that sound from home.”

But what was ‘home’? Was it an imaginary America in which everything was alright, an America of small towns with state fairs and Thanksgiving turkeys? So, AFVN would work as an “antidote to […] homesickness” or was it the America of intensifying struggles about – among other things – the Vietnam War and Civil Rights? Was it more important to make a program that would back the troop’s morale, but mask out the problems of the war and back home in the country, whose principles the soldiers were supposed to fight for? Or would these stations have the duty to give their listeners all the information they would have a right to have as American citizens? Of course, during the war the news were censored. But in hindsight there is a disagreement about the extent of censorship in the military radio broadcasting in regard to the music that was played, with more and more music coming from a ‘counterculture’ at ‘home’ that was very much against the war.

“Never banned or forbidden, rock was encouraged as a leisure activity. Tolerance, even support, for it by the Armed Forces revealed how the managers of the US military transferred the latest consumer strategies from domestic culture to military life. […] The Armed Forces also actively imported the latest “acid rock,” so-called for its associations with the hallucinogenic drug LSD, into Vietnam in hopes of keeping GIs who liked the music engaged in the war effort. […] If antiwar protesters in the Bay Area and elsewhere sought to ‘bring the war home,’ as a popular antiwar slogan of the time went, then the commanders and managers of the United States Armed Forces sought to ‘bring home to the war’ as never before.”

This disagreement about the role of music then seems to be not so much about its importance on a level of ‘vibes’, the question is rather how they translate in the situation of the military in Vietnam: do they articulate subversion and connect people against the military organization or do they rather produce private spaces and times of leisure that actually support the military efforts? One, however, could call that ‘schizophrenic’:

“You get this ‘good morning Vietnam! It’s a beautiful day out there’, and I go: what in the hell is he broadcasting from? You know, we had just been mortared and rocketed… They always tried to keep everything upbeat. They were trying to project that you were at some surf party in Santa Monica or something and when I was over there in ’66 and ’67, I can remember we listened to a very sexy sultry good looking girl […] after you’ve been mortared and your buddy is lying next to you dead or is screaming for a Corpsman, somehow it just doesn’t fit.”

Hanoi Hannah

On the other side of the spectrum there would be the voice of Radio Hanoi, run by the North Vietnamese Army, that called itself Thu Hương (‘fragrance of autumn’) and that the Americans called Hanoi Hannah. Maybe all the female voices from Radio Hanoi were called Hanoi Hannah, but one in particular would later identify as her: a woman by the name Trần Thị Ngọ, who had learned English in the time under the French rule of Vietnam because she wanted to understand American movies.
“asking black and Latino soldiers, ‘what are you doing here, soul brother?’ – and telling them to desert and return to the United States to fight for their own civil rights.”[19]

“Mike Roberts, 41, Detroit, Michigan remembers Hanoi Hannah. Mike was a Marine, in a Hawk Missile Battalion just outside Da Nang through 1967 and 1968. He summed up the black veteran’s attitude to Hannah’s broadcasts: ‘I remember June 1967, I was sitting in a tent with about thirteen guys from Charlie Company. We were all on mess duty and we were gambling, drinking and having a good time shootin’ craps, talking about the world, man, listening to music and you know one guy kept saying, “Sshh, sshh, be quiet,” and everybody says what, what, and he says “There’s a riot in Detroit!” I guess the governor called in the troops... there was some loss of life. There was no feeling of, you know, what were they rioting for? What possibly could they want? We all knew what they wanted, you know what I’m saying. So of course we would feel some sort of empathy for the folks back home... the guys in the street who were struggling or rioting.”[21]

In (re-) transferring the inner socio-economic and racial fragmentations and polarizations of the American society on the military in Vietnam, she is “asking black and Latino soldiers, ‘what are you doing here, soul brother?’ – and telling them to desert and return to the United States to fight for their own civil rights.”[19]

In (re-) transferring the inner socio-economic and racial fragmentations and polarizations of the American society on the military in Vietnam, she is asking black and Latino soldiers, ‘what are you doing here, soul brother?’ – and telling them to desert and return to the United States to fight for their own civil rights.”[19]

In (re-) transferring the inner socio-economic and racial fragmentations and polarizations of the American society on the military in Vietnam, she is asking black and Latino soldiers, ‘what are you doing here, soul brother?’ – and telling them to desert and return to the United States to fight for their own civil rights.”[19]

In (re-) transferring the inner socio-economic and racial fragmentations and polarizations of the American society on the military in Vietnam, she is asking black and Latino soldiers, ‘what are you doing here, soul brother?’ – and telling them to desert and return to the United States to fight for their own civil rights.”[19]
escalated between 1969 and 1972 in a rising number of incidents of “fragging” – the killing of superiors often attempted with a fragmentation grenade which could be covered up as accident.\(22\)

“Don: What were your main aims?

Hannah: We mentioned that GIs should go AWOL and suggested some frigging, or that is fragging. We advised them to do what they think proper against the war.”\(23\)

In respect to the asymmetries and politics of information at play here, one could think of what is going on in terms of measures to inform – to bring into form – the individuals and groups inside the military: a radiophonic layer over an uncertain topology of soldiers far from home that aims to articulate its identity or identities. Or maybe a better term would be to modulate these identities, if one thinks about the musical sounds and ‘vibes’ which seem to play a very important role in this. As the ‘radio-names’ Hanoi Hannah and Fragrance of Autumn indicate, this layer itself is not fixed in regard to who is talking from where. This entangled situation could not be restricted to more- or less central or official voices, but also GIs, like the one calling himself Dave Rabbit, would interfere in it.

The Bullshit Band

The Vietnam War is accompanied by the building of a globally linked communication infrastructure by radio relay stations of the American military, but it also expands deeply into very small military units\(24\).

“The number of radio sets rose from one set for every 38.6 men in 1943 to one set for 4.5 men in 1971, an 857 percent increase that far exceeded the figure for any other kind of equipment. The increase made it possible to multiply the number of communication channels to each divisional headquarters fourfold, from eight in Korea to thirty-two in Vietnam.”\(25\)

This was meant to increase the flow of information upwards, and of commands downwards in the military hierarchy and thus reduce uncertainties. But it also increased the risk of what Martin van Creveld has called “information pathologies” that complicated, overflowed and slowed down these chains of communication and control\(26\).

“Confronted with a military information network that was impossibly complex and in the end often unable to cope, decisionmakers not unnaturally responded by attempting to cut through by any and every means that presented themselves. Commanding officers in Vietnam relied on the helicopter; officials in Washington depended on the media to supplement the frequently highly abstract, imprecise, and slow-to-arrive information percolating through normal military and defense establishment channels; and the troops chatted over their radio sets.”\(27\)
And the possibility that this chatter could make itself independent was in a way permanently installed in the troops that were equipped with thousands of portable transistor radio sets. At any moment, a soldier with a radio could become his own little radio station. Thus, operating somewhere in between subverting the discipline that would make the radio a kind of telephone system controlling who speaks to whom, and dissolving the radio as the one-to-many structure of classical broadcast, the so-called “bullshit band” reintroduced an ambiguity of radio, that had been accompanying it throughout its history[28]:

“Regularly when you were out in the field, you would use that band to sort of, you would bullshit, and that’s why we called it the bullshit band. And you’d be sitting around at night and get on and say: Hey, Hi, I’m from… you know, Perkasie, Pennsylvania – or wherever – anybody out there from Pennsylvania? And people would talk back and forth on this thing. Well, about the fourth or fifth night that we were up at Con Thien, a couple guys from the bunker next to ours came running in, all excited, and told: wow, there are radiomen, you had to turn on the radio, that there were tunes, people were playing music on this thing. They got him to turn this thing on. Well you couldn’t get anything, we’re inside this bunker, so they tell him to put on the whip, it’s a big long ten foot thing, that he screws it in and sticks it out the door and sure enough we hear rock’n’roll music. And it was certainly by no means sanctioned radio transmissions. You were forbidden to use that open channel for anything except emergencies.”[29]

Dave Rabbit

But it goes further than this. For example, when United States Air Force Sergeant Clyde David DeLay broadcasts his own program – Radio First Termer – for 21 days in January 1971 under the name Dave Rabbit, as a full-blown parasite of the military communication logistics; because he himself works in the military supply, he has no problem with funneling high quality audio and radio equipment through the “Midnight Supply”[30] for his own radio studio[31].
“We were broadcasting from a Saigon whorehouse, that we set up as a studio because we couldn’t broadcast obviously from the air force base that would be a little bit obvious. [...] The guys that I had met when we were at Phan Rang, they really were the geniuses to this whole operation and basically, of course, I’m not a technical person by nature, just kind of a voice if you will. We found our location in the whorehouse of Saigon, we set our room up, the guys from Phan Rang contacted the guys in the Saigon relay area and they came and they wired us, they went to the rooftop of the whorehouse that we were at and they did up a dish or whatever to boost the signal to where it went to the local Saigon relay station, and then from there it just piggie-backed and went throughout Southeast-Asia on to the other relay stations.”

Radio First Termer is broadcasting from somewhere between inside and outside of the military radio communication system and using a pseudonym too. Rabbit’s partner, calling herself Nguyen – which is a kind of the Vietnamese analogue of Smith in surnames, chosen “to have a tie in with Vietnam and [...] to sound exotic and sexy” – but who actually is an American working in the AFVN offices would introduce the broadcast:

“The following program is in living color, and has been rated X by the Vietnam Academy of maggots. This is Radio First Termer. The purpose of this program is to bring vital news, information, and hard acid rock music to the first termers and non-re-enlistees in the Republic of Vietnam. Radio First Termer operates under no Air Force regulations or manuals. In the event of a vice squad raid, this program will automatically self-destruct. Your host tonight is Dave Rabbit.”

At the same time, David Rabbit provides another kind of connection back to the ‘ground’ of a counter- or subculture that was developing in Saigon:

“… blowing little grass now, going back into music by Steppenwolf called The Pusher – speaking of a pusher, brothers and sisters: if you happen to be down by the Magic Finger Lounge anytime night, keep away from the Korean at the front door, he’s pushing some bad H, I repeat, he’s pushing some bad H.”

Dave Rabbit, voiced by Clyde David DeLay, an American soldier inside/outside the American communications network in Vietnam, played the soundtrack for first-termers in Saigon, giving them coordinates for their navigations through an underground culture.

**Ghost Tape #10**

Meanwhile, the American units for Psychological Operations (PSYOP) were blasting electronically amplified sounds into the acoustic spaces of the war. Besides things like mobile propaganda teams visiting the villages and the distribution of billions of leaflets, like dropping them from airplanes, the mobile loudspeaker played a central role in “winning the hearts and minds” in Vietnam. Soldiers would carry them into the field and trucks, planes, boats and helicopters were equipped with loudspeakers to communicate with the country’s population but also to reach the ‘invisible’ enemy. One of the most notorious stories in this regard is the one of “Ghost Tape #10” or “Operation Wandering Soul.”
This tape was supposed to play on the beliefs of the Vietnamese people that a soul whose body has not been properly buried by its family is damned to keep wandering in the afterworld. It starts with a recording of traditional funeral music, followed by electronic sound effects like those from “a scary radio show or movie.”[^39] Then a voice of a girl starts crying: “Daddy, daddy, come home with me, come home. Daddy! Daddy!” Which is answered by a heavily reverberating male voice telling that his body is dead and he is calling from hell; then addressing his fellow countrymen out there, telling them to avoid this senseless death somewhere in the battlefield and go back home to their families while they are still alive.

[^39]: [http://www.psywarrior.com/WanderingTape1.jpg](http://www.psywarrior.com/WanderingTape1.jpg)

(2nd Platoon “Chopper” UH-1B with special PsyWar I loudspeaker system on right side of the aircraft.^[64] (Photo courtesy of Harold “Chip” Austin.)[^40])

[^40]: [http://www.pcf45.com/sealords/cuadai/VNBackpackLS.jpg](http://www.pcf45.com/sealords/cuadai/VNBackpackLS.jpg)

The effectiveness of Operation Wandering Soul is controversial, or rather, the question is what kind of effect it would induce. Some reports tell how it actually lead to the intended effect of the defection by Việt Cộng combatants, and it even was advised to not play the tape in the proximity of allied South Vietnamese soldiers as it would work with them as well. The famous scene of the helicopters playing Richard Wagner’s Ride of the Valkyries at high volume in “Apocalypse Now”, however, points to a more intricate economy of affects, taking into account the people emitting these sounds to sonically invade and claim the territory flown over. This would not so much depend on a transmitted meaning but on a kind of aggressive intensity of the sound. This quality borders on the domain of frequencies and sound pressure levels aiming at physical bodily effects that Gregory Whitehead has imagined as ‘Project Jericho’, that Steve Goodman described in his book on sonic warfare, and that has been recently discussed on the occasion of the Long Range Acoustic Device (LRAD) or ‘Sound Cannon’ used to disperse political demonstrations and to drive away pirates^[41]. A main thread in the...
accounts of “Ghost Tape #10” suggests that, first of all, this kind of public address would mark the loudspeaker’s location and draw fire. And this effect was then, in turn, used in another strategy, devised in an Operation called “Quick Speak”\(^{(42)}\). As these transmissions provoked the firing of shots at the loudspeaker, this again was used to spot the hidden enemy and shoot back\(^{(43)}\). As Herbert Friedman remarks:

“We have seen no data to verify the success of the Wandering Soul operation. I suspect it did not do well. The one continuing factor I find is that in most cases the Việt Cộng took fire when they reacted to the tape. This does not seem to be a successful way to motivate defections.”\(^{(44)}\)

In the end, what may be said about Operation Wandering Soul is of the different translations, transmissions and transferences at play. Of note in this context is that the assumptions of the tape’s producers – on how their knowledge of Vietnamese culture could be translated into a psychologically functioning sonic application – can be read in a line with the stereotypical figure of the superstitious primitive reacting to recorded voices, which has been recurring in the negotiation of acousmatic media and would thus tell something about the lineage of these concepts\(^{(45)}\).

By asking where the voices and sounds of Operation Wandering Soul are coming from, different spaces can be drawn out that are put into relation: American military PSYOP operatives speak through Vietnamese voices, which are electronically altered to appear to come from another space altogether – the afterworld – are emitted from the loudspeakers of helicopters hovering over the jungle, addressing the invisible enemy. These voices do not appeal to people simply as soldiers, but as private persons – as fathers, mothers, sisters, and brothers. At the same time, the loudspeakers make themselves localizable through their sound, and can provoke a reaction that makes the enemy localizable.

**Acoubuoy**

In 1966 it became increasingly clear to the US-American administration that the strategy of bombing central and critical military and infrastructural targets of North Vietnam, and of the communist South Vietnamese National Liberation Front – also known as Việt Cộng – proved to be hardly effective. One problem was that for many people living mostly from subsistence agriculture, there didn’t seem to exist very much ‘hardware infrastructure’ that could be targeted and bombed. It was even noticed that these bombings might instead unite the scattered local population, and promote sympathy and support for the Việt Cộng\(^{(46)}\). And there wasn’t one main route for supply and troops from the Communist North into South Vietnam that simply could be destroyed by air or interrupted once and for all: The so called Hồ Chí Minh Trail just didn’t exist as one. Instead, the territory of South Vietnam, which the USA tried to control and stabilize, was being infiltrated by a rhizomatic net of roads and paths that was finding its way through the opaque and confusing jungle of Vietnam, and especially through the neighbouring Laos, whose territory was not supposed to be involved in the war\(^{(47)}\).

---


www.airforcemag.com/MagazineArchive/Pages/2004/November%202004/1104igloo.aspx

www.airforcemag.com/MagazineArchive/Documents/2004/November%202004/1104igloo.pdf)
The strategy devised to stop this influx was to draw a line through the landscape without it being necessary to see through it or for a person to have to be there; without having to build something concrete and permanent in the landscape; and, in the best case, without even touching the ground — an „Electronic Wall“.

In this operation that was, among other names, also called Operation Igloo White, the American Armed Forces started to install, or rather, intersperse an electronic sensorium which consisted of a variety of detectors: seismic, magnetic, even chemical detectors that sniffed for urine and motor exhaust gases, and last, but definitely not least, acoustical ones. Among these sensors was a device called the Acoubouy, short for acoustic buoy. The technology of the Acoubouy was a transfer from naval warfare, where a similar problem exists of seeing, identifying and locating enemy submarines. In the Cold War, the Navy had developed a system of hydrophones with the help of technologies for ‘visible speech’ and spectral analysis coming from the research into speech quality in the telephone business and engineering of AT&T.

Now, instead of dropping them into the ocean, the Acoubuoys were dropped into the jungle, where suspended on their parachutes, they would hang in the trees listening to the forest.

The Acoubuoys were painted in camouflage patterns in order to hide in the background of the forest. Other sensors had antennas that were made
to look like some kind of grass or the form of animal droppings. The Acoubuoy was activated by sonic events with certain pre-programmed characteristics, and would send a radio signal with its identification code and also start to transmit the sound for a determined period of time, like ten seconds. These signals could then be relayed by planes circling over the territory to a computerized data centre, the Infiltration Surveillance Center (ISC) – “the largest building in Southeast Asia” located in Nakhon Phanom in Thailand (see map above), where they were collected, listened to and processed with the computer system.

(Bugging the Battlefield, 1969, Department of Defense, MF 11 5514, https://archive.org/details/gov.archives.arc.4524913)


Maps and Territories

When a group of trucks was moving along a series of these sensors, the number and type of vehicles could be estimated, their location and velocity could be calculated, and an airstrike on them could be ordered. So in this system, objects are identified by their movement through the grid of sensors, showing up as white “worms” on the displays in the center of calculation, superimposed on the “boxes” of a map grid. But in order to correlate this grid with the geographical map of the territory on the ground, it was of course necessary to know where the Acoubuoys had actually landed. Due to peculiarities of the terrain, the jungle and the mountains impeding clear lines of sight, and the uncontrollability of the spaces in between, these radio networks were devised for non-continuous territories that were not held together by fixed installations on the ground.

(Inside the ISC)

This advance of radio technology now revealed itself as the reason for “the most pressing single problem facing the entire [...] operation”: the sensor itself just couldn’t tell where it was, it would only transmit its identification number. That is why, while dropping the sensors, photos of the ground were taken from the plane, which could be compared and thus linked to the maps. After an
attack, it had to be checked again if the targets had actually been hit and destroyed. To once again find the hit targets on their locations trucks, for instance — wasn’t as easy as it sounds: had things been destroyed at all, or had the Việt Cộng hidden them in the jungle after the attack? Problems like this drove the circulating joke about the “Great Laotian Truck Eater”, an undiscovered exotic animal roaming the jungle at night. Problems like this drove the circulating joke about the “Great Laotian Truck Eater”, an undiscovered exotic animal roaming the jungle at night.

Frogs

This strategy of detection proved to be more sonically difficult than it had been previously imagined. Nature in the Vietnamese jungle seems to be rather a grandiose hubbub than a quiet ‘hi-fi soundscape’, making the distinction between signal and noise complicated:

“Among the shortcomings of the anti-vehicular systems was the excessive sensitivity of the sensors, as demonstrated by the 491,814 [acoustic-seismic] sensor activations and the 125,649 acoustic acou buoy activations. It was obvious that not enemy trucks but ambient factors such as animals (especially frogs), thunder, and other sounds were triggering most of the activations."[56]

Incidentally, there is something downright otherworldly about the ability of acoustic sensors to let one eavesdrop on his prey in hi-fi. For my benefit a tape that had been made from an acoustic sensor was played by an engineer at the MITRE Corporation. It contained a few critical minutes in a North Vietnamese truck park along the Ho Chi Minh Trail in Laos and was recorded during an

get hold of Igloo White recordings. Paul Dickson describes one of these tapes in his book.)

The huge amount of activations in turn caused the personnel to lower their sensitivity and they would often not trust their data to order a counter-operation. In order to be able to distinguish the environmental background noises of the jungle from sounds of humans and motors, personnel had to be trained in listening. The newly formed Acoustical Working Group (AWG), with Navy specialists, and civilians from American universities and CBS Laboratories, undertook extensive research into the spectral and temporal signatures of trucks, frogs, thunderstorms and planes flying by, to further the techniques of electronic sound analysis.

---

**Table 4-2. Principal Sound Characteristics of Natural Sources**

<table>
<thead>
<tr>
<th>Source</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Truck</td>
<td>50 dB peak at 40 Hz (C/Chamber microphone)</td>
</tr>
<tr>
<td>Tree</td>
<td>High energy present below 20 Hz</td>
</tr>
<tr>
<td>Wind</td>
<td>Energy at 200 Hz and below 33 dB at 160 Hz, then</td>
</tr>
<tr>
<td>Rain</td>
<td>Insects: 0.02 Hz to 5 ki, 0.2 kHz, etc.</td>
</tr>
<tr>
<td>Frog</td>
<td>0.2 kHz</td>
</tr>
<tr>
<td>Noise</td>
<td>0.2 kHz</td>
</tr>
</tbody>
</table>

---

**Figure 4-11. Spectrogram, Broadband and Narrow Band, for a 5-Ton Diesel Truck at 10 mph, 2nd Gear**

(The Sound of Igloo White. I haven’t been able to...
Still, how could one distinguish friend from enemy, from the uninvolved? Signal analysis would give no definite answer to that, somebody would have to decide. And this could mean the need to switch from ‘signal intelligence’ — which would analyze the signal by physical parameters — to ‘communication intelligence’, looking for a meaning that is transmitted over the carrier signal. In the 1970 hearing on the Electronic Battlefield Program, this link between switching to another level, and the responsibilities for the lives of the people on the ground becomes quite clear:

“Mr. Gilleas: There is a lot of interest in the ability of sensors to discriminate between enemy forces and friendly civilians who are out in remote areas. […] The question is, how do we prevent sensors from killing innocent people versus enemy troops?

General Deane: You say the sensors won’t tell you. And the sensors might give you an indication if over an acoustic sensor you heard voices and determined, from the conversation that they were enemy — that is the only way I would know you would be able to tell. Now, when you get into that kind of a problem, you have to bring to bear your knowledge of where your friendly forces are, where it is likely friendly people are civilians, and use your best judgment.”

Statistics

In the end the effectiveness of Operation Igloo White stayed unclear. For example, one report that explored these questions remarks:

“The reported figures for the number of North Vietnamese and Pathet Lao trucks damaged or destroyed on the Trail are growing at a geometric rate… These figures are not taken seriously by most US officials, even Air Force officers, who generally apply something on the order of a 30% discount factor. One reason why there is some skepticism about the track kills claimed by the Air Force is the total figure for the last year greatly exceeds the number of trucks believed by the Embassy to be in all of North Vietnam.”

Martin van Creveld and Paul Edwards have remarked on the strong influence of computerized numerical and statistical modelling on how the Vietnam War was led. In Operation Igloo White, this trait becomes entangled with the radiophonic infrastructure. The question of localization and identification of a potential target is informed by the fact that sensors are sending their signals by radio waves, and by the techniques of automated spectral analysis that are making it a kind of game of battleship; structures of uncertainties and probabilities configured by the specific radiophonic infrastructure – the connections and disconnections between different sonic spatialities – installed.
Operation Igloo White can be thought of as a kind of weird double of Schafer’s “Wilderness Radio”: a certain reversal of the classical structure of radiophonic entertainment, in which one center would broadcast out into the world, causing an uncertainty about the listeners, that becomes a scattered ‘mass’ on one end of the channel and an acousmatic or schizophrenic separation of the sound from its source or context on the other end. While Schafer’s design seems to start out from the assumption that the difference between nature and technology is set, and then becomes muddled in a logic of the antidote — although still thought in terms of a centrally controlled intervention — Operation Igloo White encounters the problems of distinguishing one thing from another in the heart of its set up and the thousands of ‘radio-stations’ reaching a ‘centre of calculation’ are threatening to overwhelm it in a cacophony of sonic data. And these two strange doubles can be related to each other through the problematics of acoustic environments. In a 1974 publication of the Acoustical Working Group, the authors explained their motives in the leading abstract:

“With the ending of American military involvement in the Indochina conflict it became appropriate to summarize the unclassified aspects of those investigations which might have a reference value to future scientific workers both in the civilian and military endeavors. [...] They embrace, in general, the study of sound propagation, a subject important to noise abatement, hearing protection, and other ecological and environmental concerns.”

And a bit later they expand:

“The publication of this volume at this time is believed to be of special importance in view of the burgeoning interest in the practice of noise control and environmental acoustics, which is so heavily dependent on accurate measurements and meaningful data reduction.”

Bernhard Siegert has noted that the history of radio is marked by an ‘electronic’ split between the audible low frequencies of the transmitted sound that is interpreted on the side of ‘communication intelligence’ and the high frequencies of the electromagnetic carrier that is analyzed on the side of signal intelligence. Taking up on this history of radiophonics, a ‘becoming-environmental’ of sound can be thought of as a certain way of re-introducing this split into the acoustic and auditive domain, when in the acoubuoy sound is analyzed electronically and automatically in a logic of signal intelligence and the kind of ambiguities this logic brings with it.

Even taking into account the logic of finite resources and time to obtain information that might be available in principle, which all kinds of decision-making may have to deal with — but maybe military command in particular — one crucial problem remains. If it has to be decided whether the objects or persons detected are the enemy and not civilians or allies, at least in principle, this radiophonic technology of surveillance and intelligence cannot settle these things once and for all, because it can potentially trigger an ever-increasing spiral of counterintelligence and deception, and counter-counterintelligence and so on, that calculates with the other’s reactions on sounds. An ambiguity of sounds of a second order.

The Ears of the Jungle

It remains unclear to what extent such a logic actually unfolded around the acoubuoy. Pierre Boule - the author of The Bridge of the River Kwai and Planet of the Apes - however, has taken up the possible escalation of sonic counterintelligence and countermeasures in his novel “Ears of the Jungle”. Boule had been a French engineer working in different parts of colonial Southeast Asia, who then enlisted as a secret agent before he came back to France and wrote his novels. His being a representative of the former colonial power in Vietnam might be a clue to how he understands the Vietnam War. However, although this story is explicitly fictional, the book conveys a sense of a strange kind of sonic — or better: radiophonic — ecology and its poetics; the strange splits and paradoxes between nature and technology, and inside and outside spaces. The narrative is carried by an aesthetics of deception in which a thing can potentially turn around to be, to appear and to be used as something else by changing the register of relations in which it flowers out its effects.
In the book the North Vietnamese Chief of Intelligence – Madame Ngha – discovers the Acoubuoys with the help of local indigenous tribes – the Jarai – with their ‘natural sensitivity’ for “foreign objects” in the jungle. She sets up a scheme of acoustic deception with sounds on prerecorded tapes: on the one hand, the noises of their trucks going along the Hồ Chí Minh Trail are masked out by sounds of crickets and other natural noises, and on the other hand recordings mimic the movement of convoys somewhere else by playing sounds of trucks there. In this way she develops different strategies to abuse the American bombers for her own goals.

She develops this idea in a conversation with the native Dju, whose tribe gathers the animals randomly killed by American air attacks instead of hunting them anywhere. She is not the way to carry on a good hunt. ’[…] I definitely agree,’ she [Madame Ngha] said. ‘Dju speaks with wisdom. Dropping stones at random! That is no way to have a fine hunt.”

She sonically misdirects the planes to ‘hunt’ animals for local food supply. Then she uses the napalm bombs to clear the forest and to cultivate the land with rice fields. Thus it appears that the nature of the jungle — which in a way supports the war against the United States — is at the same time an ‘enemy’ as it interferes with the modernization of the Vietnamese People, and the Americans are actually helping to overcome it by their efforts to use their military-technological predominance: In the next step, the napalm bombing is used burn the forest for a foundation of a “Hồ Chí Minh Road” that would lay the foundation for traffic and thus for the unification between North and South Vietnam.

The stories of Madame Ngha’s tricks alternate with perspectives of the intelligence center at Nakhon Phanom, where General Bishop tries to make sense of the incoming signals.

In the descriptions of how General Bishop deals with things two recurring and varied motifs can be noted: The sounds start to border on music, aesthetic pleasures, ‘concerts’ of the jungle transmitted by radio and enjoyed in the enclosed, air-conditioned and – presumably – safe space of the general’s home. And this already points to the second aspect: the strange relations between different insides and outsides that are at work at this military base, only connected through microphones to the actual battles. The strangeness of these relations is played out in a scene where the station’s Thai gardener is reprimanded for using chemical pesticides in the general’s garden, because as ecology is much debated in the American public lately, everybody should know that these pesticides are very bad for the environment –
while in the environment outside the enclosed garden, the poison Agent Orange is used on an incredible scale to defoliate the jungle.

In the end, the general’s Vietnamese servant – who is one of Madame Ngha’s agents – smuggles acoustic sensors into his home, disguised as nature – beautiful orchids from the Vietnamese jungle. These orchids/sensors/radio-transmitters then trigger an air raid and the destruction of the American intelligence center itself.

The orchid – an Acoubuoy coming back as a flower – might be a good image for the possibilities for recursions and oscillations between the different spatialities that the examples collected here seem to connect.

*****

These reflections developed in my research on the history of sound installations and experimental radio as part of the interdisciplinary research project “Radiophonic Cultures – Sonic environments and archives in hybrid media systems” funded by the Swiss National Science Foundation (SNSF) in the frame of the Sinergia programme. I presented some first ideas of this essay at the workshop “Sounding Out the Anthropocene” (March 10–11, 2016, Critical Media Lab, Academy of Art and Design FHNW, Basel). Many thanks to the organizers Felix Gerloff and Shintaro Miyazaki, to all participants for the inspiring discussions and to Friedlind Riedel and Seth Horowitz for two helpful remarks.


[5] For the field of literature see the overview of different works: Philip Jason, “‘The Noise is Always in My Head.’ Auditory Images in the Literature of the Vietnam War”, The Midwest Quarterly 37.3 (Spring 1996), 243-255.


design (Cambridge, MA: MIT Press, 2006).


[23] Interview with Trịnh Thị Ngọ, in: North, “Voices from the Past.” AWOL stands for “Absent Without Official Leave”, the abandonment of duty, the not-being at one’s position/address.


[27] Van Creveld: Command in war, 258.

[28] An example is the “Funkerspuk” of 1918, in which a network of militarily trained radio operators threatened to spin off from military and state control. Although this threat proved to be very easy to enclose or even hadn’t been really probable in the first place, this story was ingrained into the discourse on radio as a medium of communication and/or broadcast and on the regulatory politics in the Weimar Republic. See Bernhard Siegert, “Eskalation eines Mediums. Die Lichtung des Radiohörens im Hochfrequenzkrieg,” in Welt auf tönernen Füssen. Die Töne und das Hören, ed. Uta Brandes (Göttingen: Steidl, 1994), 295-327, 317-318; Albert Kümmel, “Innere Stimmen - Die deutsche Radiodebatte,” in Einführung in die Geschichte der Medien, ed. Albert Kümmel, Leander Scholz & Eckhard Schumacher (Paderborn: Fink [UTB], 2004), 175-197, 175-176.


[34] Cf. Rabbit, 21 Days in the Saigon Underground.


[40] Stories provided by former members of the 33rd Trans Co. or 118th AHC: http://www.118ahc.org/storiespage5.htm.


[48] Other names used for basically the same or similar electronic wall programs or parts of it in the course of its history and because „of partial compromises of their classified meanings“ (Project CHECO Report, 1) were: Practice Nine, Illinois City, Dye Marker, Dump Truck, Dutch Windmill, Muscle Shoals, and Task Force Alpha. See Tambini: Wiring Vietnam, xii, and Jesse C. Gatlin, Project CHECO Report: Igloo White (Initial Phase), 31 July 1968, Pentagon, online: www.dtic.mil/dtic/tr/fulltext/u2/a485055.pdf, 1-3.


[56] Van Staaveren, Interdiction in Southern Laos, 282

[57] Cf. Gatlin, Project CHECO Report: Igloo
White, 28.


[64] Acoustical Working Group, Acquisition, Reduction and Analysis of Acoustical Data, lx.


[67] “The guerrillas had simply learned to confuse the American sensors with tape-recorded truck noises, bags of urine, and other decoys, provoking the release of countless tons of bombs onto empty jungle corridors which they then traversed at their leisure.” (Edwards: The closed world, 4) I haven’t been able to confirm these stories of counterintelligence against Igloo White.

Cf. Dickson, The electronic battlefield, 79-81: “‘These were fascinating ideas,’ says Israel [David R. Israel, Deputy Director of the newly formed Defense Communications Planning Group (DCPG)], ‘and quite imaginative but things never quite worked out like Boule predicted. They never really tried to spoof them on any scale. Sure they shot some, burned others and in what was perhaps the ultimate act of contempt we actually heard them piss on one of our acoustic sensors; but they never really played games with us’. However, it is already telling of the logic at work here, that it seemed impossible to produce reliable numbers and that countermeasures against the enemy’s countermeasures were preconceived: For example...
many of these sensors had built-in self-destruction mechanisms for if one would try to tamper with them or find out how they worked.


[69] Boulle, Ears of the jungle, 45.