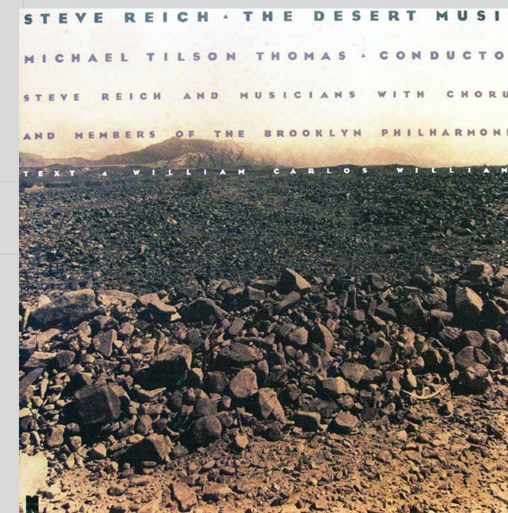
licenses which stated, among other things, the camera's End Use ("To Raise Awareness").
It was a perverse inversion, in some ways, of the unseen subterfuge of asylum seekers, willfully discarding, for example, their Afghan passports on the shores of the Aegean Sea. But these restrictions on my own freedom of movement gave me a certain understanding, an emphatic reminder of the camera as a tool of the state.
ITAR strictly forbids the export of this camera to a blacklist of sanctioned nations which includes Libya and Syria, two countries which are key to understanding the European refugee crisis. This means that I couldn't actually work with this camera inside Libya or Syria as a result of arms embargoes, under threat of being arrested for arms smuggling. In some respects, the piece was formed in part by those export limitations.
The only legal way around them was to record from across international borders, which the camera was especially capable of, and which we did in the case of Syria, filming from an ancient archaeological mound on the Turkish-Syrian border named Oylum Höyük, one of the largest archaeological mounds in the Middle East, and an historically strategic vantage point overlooking the desert plains of northern Syria. From Oylum Höyük, we were able to record fighting between Free Syrian Army troops, fighting with US air cover, and Islamic State forces in and around the town of Dabiq. This is significant because Dabiq was preordained in the Koran as the place where a great final battle would be fought between Sunni Jihadis and their heathen enemy, so holds great symbolic resonance in Daesh ideology.
The camera's dual-use export controls also prevented us from traveling with it inside Libya. Libya, too, is sanctioned under EU and UN embargoes, so we intercepted the northerly migrant flow south of the Libyan border in the Sahara Desert of northern Niger, picking up the route again off the coast of Libyan waters in the Mediterranean, where we embedded with Guardia di Finanza, Italian customs police based out of the Sicilian port of Messina, on migrant rescue patrols.
Trans-Saharan migrant routes are in a constant state of flux, captive to shifting security conditions. Older routes through the Malian cities of Kidal, Gao and Timbuktu have become extremely unsafe due to Islamist insurgencies, Azawadi separatists and lawlessness in the north of the country. The situation is similar in Chad. As a result, many migrants from the Sahel region, along with numbers of sub-Saharan and Horn of Africa migrants and a handful of Syrian refugees, choose to cross to Libya through Niger, which has turned the city of Agadez in northern Niger into a busy trafficking hub. Beyond Agadez, the roads peter out into desert and the route to Libya is an intensely difficult off-road journey through treacherous desert landscape. The International Organization of Migration (IOM) estimates that an equal number of migrants die crossing the Sahara Desert as die crossing the Mediterranean Sea, and some estimates put that death toll at double this figure.
The migrant convoys massing in northern Niger are extraordinary to witness. Huge numbers of all-terrain vehicles, mainly Toyota Hilux pickup trucks but also bigger lorries stacked with cargo, mill about in the streets of the desert city of Agadez, waiting for passengers before hurtling off-road through the desert in a staggered caravan of heavily laden trafficking vehicles. The route becomes unsafe past a certain army post north of the city. There are frequent ambushes, and the drivers seem nervous, choosing to drive at high speed through night and day. The journey to Libya takes around four to six days. We joined one of these convoys to capture footage that forms a scene in *Incoming*, traveling with the protection of soldiers from the Niger Army. Military escort is required in this region due to the scattered presence of Islamic State as well Al Qaeda in the Maghreb and other elements.
Before these desert routes became popular with migrants, traffickers were said to carry drugs north, returning from Libya with weapons to trade with Islamist groups. An official from EUCAP Sahel, who I met with in Bamako, assured me that vehicles traveling in these migrant convoys still do. In practice, the trans-Saharan trafficking routes are lawless areas subject to few regulations, and there is minimal police or military enforcement, making it a safe haven for Islamist training camps and infrastructure. US, EU and UN military bases have been established in Niger, Mali and other Saharan nations in order to surveil and strike Islamist groups. In some respects, the region's lawlessness and relative lack of sovereignty, along with received notions of this place as a no man's land, have given Western forces a much freer hand to deal with (strike) Islamist insurgents with impunity.
Many aspects of EU border externalization strategy are correlative and intertwined with anti-terrorist security activities, which is why I refer to the EU's response to the refugee crisis in terms of a military-humanitarian complex, and why I see this long-range military-grade surveillance camera as a useful medium through which to understand it, and through which to portray it.

FA Yet, as far as I understand them, imaging systems, be they satellite remote sensing, terrestrial surveying machines or military, industrial or even medical camera systems, could be narrowed down to two generalized modes of operation. The first is a human-based reading of the image data, while the second is a machine-learning-based semantic "understanding" of the information coming in from all sensors on the camera system. These AI-driven systems interpreting the *incoming* images, locking into specific features, tracking them, measuring and comparing them across time, then make operable decisions that are carried out by either humans or other automated machines, be they weapon systems, alerts or a medical diagnosis.
The question is, when one only has the visual input from such a camera system without being linked into the larger data and algorithm network, in what ways does it effect the possible understanding of what the image shows? As you directly say, although comprised of tones of grey, these are not traditional grey-scale images, but rather heat maps derived from a completely different part of the optical spectrum and captured by a different camera sensor. So how do we hint or point towards the further sets of sensors and interpretation that are inherent to this camera-weapon system? This is obviously a technical facet of this, but it ties directly into deeply political and moral questions running directly through any counter engagement with the military-humanitarian complex, as you described it. In our work, we are constantly grappling with this challenge of always operating at an information and vision disadvantage. We never have the full spectrum of what is available to the state or corporation. Within this gap between what the state sees and what the citizens can see, many times much of the violence and its denial take place. And so, in our investigations, this technological-material gap is in many ways the site of investigation and the site of politics.

RM Forensic Architecture often collates various evidential materials and processes them using advanced mapping techniques in order to prove something specific—such as, for example, that an individual or group committed a specific war crime or were responsible for a particular human rights violation. In this sense, they can be said to be didactic: revealing or proving human rights violations in such a way that can lead to potential prosecution.
My own work has a different emphasis. It attempts to implicate the viewer within the work's gaze, to force the viewer, through the experience of the work, to confront their own participation on many levels. Its aim is to produce within the viewer a shift in consciousness and positioning with regard to themselves and their culture. I wish to transfer to the viewer this sense of complicity that I feel as a European citizen, the shame that I have felt when I visit refugee camps here in Europe, and to perceive the extent to which our governments and our societies have failed and continue to fail these people, to take responsibility for that. **K**

There is this COLONIAL GRASP of the desert, seen as an EXTRA-TERRITORY.



Desert Music

INTERVIEW WITH STEVE REICH BY JONATHAN HEPFER

Somewhere in the deeper recesses of my teenage memories, I can somehow conjure the image with photographic precision: flipping through discs at a local bookstore, I came across a sepia-toned album cover consisting of several layers of rocks with mountains on the horizon and a burnt sky looming above. The album: Steve Reich's *The Desert Music*, conducted by Michael Tilson Thomas and the Brooklyn Philharmonic. I took the album home and let the awe set in. As nearly everybody who has ever listened to the work of Steve Reich knows, his music is epiphanic. There is the world before encountering a piece like The Desert Music, and there is the world after. The piece, which sets poetry from William Carlos Williams's collection *The Desert Music* (1949-1954) to music, deals with the moral and ethical repercussions and implications of mankind's development of nuclear weaponry. The desert in question is left beautifully ambiguous: whether it is the test site of Los Alamos, Moses wandering Sinai for twenty years, Abraham taking Isaac to Mount Moriah, the eerie silence of a post-apocalyptic landscape, or simply a desert of one's imagination is unclear. There is a spiritual sensibility in this music that for me draws clear comparisons to Bach's *St. Matthew Passion*, or the exquisite enigmas of Antonioni's films. And like Bach and Antonioni, Reich's work feels to me simultaneously completely unforeseen yet inevitable.
A few years following this personal discovery, I found a collection of interviews from 1976 by Walter Zimmermann entitled *Desert Plants: Conversations with 23 American Musicians*. Zimmermann, then a young, unknown, curious and defiant German composer, sought to find out how radical non-commercial musicians in the United States managed to subsist under the hard economic conditions of that era. Fascinated by the "beauty and vigor of this existence," Zimmermann likened the musicians he interviewed

to the miraculous plants that heroically assert their presence on the desert landscape. Zimmermann visited Reich as he was compiling these interviews (ironically, on a day of downpour), and Reich declined to be interviewed, instead contributing the title page and a handwritten program note to a piece that Reich was in the process of finishing called *Music for 21 Musicians and Singers*—a work that would later became known as *Music for 18 Musicians*.

In late 2018, as artistic director of Monday Evening Concerts in Los Angeles, I myself presented a concert of Reich's groundbreaking tape piece *Come Out* (1966) and *Music for 18 Musicians* (1974–76) paired with the music of the 12th-century composers Léonin and Pérotin. I sat down with Reich a few weeks later to discuss his 1983 masterpiece *The Desert Music*, which in many ways picks up where *Music for 18 Musicians* leaves off.

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JONATHAN HEPFER: The use of the voice is something you've played with your entire career. In *Come Out*, you begin with a prerecorded fragment of clearly spoken text, and over the course of the piece, you transform that fragment into abstract phonemes so that the meaning of the spoken word somehow poetically evaporates into something greater than itself. In the 1970s, in works like *Drumming* and *Music for 18 Musicians*, you avoided text altogether, using the voice only as an onomatopoeic imitator of other instruments in the ensemble. I wonder if the dissolution of text in *Come Out* was responsible for fifteen years of your avoidance of verbal language in your work?

STEVE REICH: My take on *Come Out* is basically a kind of intensification of what's being said. You're thinking about it, you're thinking about it, you're thinking about it, and your thoughts spread out further and further. But I think however you want to poetically view where it goes, good music necessitates the impossibility of description. (*Laughs*)

JH In 1981, you used Hebrew Psalms as the basis for *Tehillim*, which was the first time you ever set an outside text in your work. It wasn't until 1983 that you set a text in English. What drew you to William Carlos Williams?

SR When I was sixteen years old, I went into a bookstore (of which there were several at the time in New York City) called Marlboro Books. It was on 6th avenue and 46th or something like that. I walked in, and I saw this book by a guy whose name read about the same forward and backwards: William Carlos Williams. (Laughs) I picked it up just for that reason. No other reason. And I started reading Paterson. And as I was reading it, I was going back and forth between understanding and not understanding it, but I just bought the book. And I thought, "Hmm, this is interesting." And then when I went to Cornell, I was reading more and more of his work, and Williams was paid to come to Ithaca after he had had a stroke to read *Journey to Love and Ashpodel*, which is one of his most beautiful and last works. I went to see his reading, as somebody who had had a stroke, and his wife was also there in the first row, and she was also pretty old. And it was just intensely moving. Also, Williams went to college at the University of Pennsylvania, where his roommate was Ezra Pound. And they remained lifelong friends. There are letters between them later, when Pound was at St. Elizabeth's in Washington D.C., and Williams writes to him, "Ez, you're crazy! Stop it! I know you. Don't do this."

So the guy struck me. These friends of his were internationally on the scene, and he chose to stay in New Jersey, because he knew that that was who he really was. To do what he did took a certain heroic modesty, I would say. And so he was someone that I had great respect for. I loved the poetry, and I loved his stance as an artist. He was someone who was older than me, and who I learned something from. His work is just indescribably beautiful.

JH Much of your work is tied together by the theme of the apocalyptic, or at least the catastrophic. For example, *It's Gonna Rain* (1965) comes in the wake of the Cuban Missile Crisis and the text refers to the biblical flood. *The Desert Music* deals with the consequences of the atomic bombs being dropped to end the Second World War. And then *Three Tales* (2002) takes on the topics of the Hindenburg, The Bikini Atoll, and Dolly the Sheep. Has the idea of the end of civilization been something you've meditated upon throughout your life?

SR I was born in '36. And I grew up in the '40s. And what was going on in the '40s? I'd walk past a newsstand and it would say "Reich bombed." The next newsstand would say "Reich burns," "Reich collapses." (laughs) And so my friends would tease me because of my name. I grew up with World War II.

So, to answer your question, if you grow up with that going on (with the realities of the Second World War), and you get older and realize that as a Jew, you're tied to these six million people who are experiencing these atrocities, and you go to see the Movietone news and you see some kind of a plowing truck pushing mounds of almost skeletal dead bodies, then you tend to see exactly what was going on. And you don't forget that. So, that's just part of growing up. And you start to reflect, "Gee, I'm on Western Avenue and 85th Street, and I'm not over there." But I am Jewish, so there is a strong sense of connection. I mean, there was much, much more than that, but that's the part that serves us with a headline of my early lifetime. And then how does the war end? The war ends with this incredible weapon, which is beyond anybody's comprehensibility, which nobody in the general public knew anything about. And then shortly after the war, there were the Bikini tests. And I was aware of that. Where there's a bomb that makes that look like a pea sugar! That's a game changer. That's still true. We have even greater knowledge, and it seems, even less moral general agreement on the planet. And so the possibility of these things being used again seems...You know, you don't want to spend a lot of time thinking about it, but you also don't want to pretend it doesn't exist.

JH Marino Formenti recently told me that truth was like the sun: if you stare at it for too long, you'll go blind.

SR No composer has to do anything, as far as I'm concerned, except to write the best music that they are capable of. They should put all their energy and their learning and understanding into doing that. But many composers do find things in their lives that they do want to bring into their music. And that's why I was dying to set Williams.

PANTS AND JACKET **CELINE**

Quartz Mirage

PHOTOGRAPHY BY NICK SETHI

Featuring
Hirakish, Cranston and Issa Lish
Styling by Avena Gallagher