

The following text is adapted from an audio essay written for short-range radio broadcast, comprising one half of the two-channel radio work "Carriers". Link to the other audio channel (described in this essay) can be found at the end of the text.

Carrier Waves

A radio is like a train. (And vice-versa). How is a radio like a train? Radio waves travel transversely, a shock rippling lengthwise through space and material, captured in a coil inductor like motion in a spring. Like a radiowave, a train hurtles laterally through space, suspended between earth and air. Like a radio transmission, a train moves its contents by way of long metal conduits: a rail is much like an antennae, laid sideways along the earth.

Radio waves in their natural state pervade our air space, passing through and beyond the tangible worlds we inhabit. Radio waves exist beyond the range of human perception without a proper receiving device. They may go unnoticed, or experienced as a buzz on a phone line, a ghost in the wire, a train in the night. Radio waves are harnessed in their natural state and used as carriers for various private, commercial, amateur, government or military transmissions. Think of it like the way box cars are stacked on the freight train, contents anonymous as they hurtle past you en route to a destination. While radio waves are used to carry voices, music, advertisements, information, and ideologies, trains likewise function as a carrier wave for the functions of global trade and capitalism. Air space and tangible space alike are subdivided, fenced, allocated for these various functions.

I have written this text between a train track and a chain link fence, in between Mile End and Little Italy neighborhoods in Tio'tia:ke/Mooniyang/Montreal. At this specific point in the train track, beside this specific chain link fence, I have set up a crystal radio receiver. This radio is grounded (in the electronic sense) by way of a railroad spike, an iron nail puncturing the surface of the earth on what is privatized CN land. The radio's functioning antenna is a chain link fence, which divides the private strip of railway from a community green space. This green space is not precisely a park--rather, it is a vacant lot which has lain productively fallow, stewarded by teams of volunteers and residents who keep trails open, and who pick up litter, and who practice a kind of volunteer forestry to maintain the space as a commons.

I am conscious that this green space is possible partly because of its proximity to the private belt of land on which this particular freight line runs. The path of the railway has determined the shape of the city around itself, snaking through the grid of surrounding neighborhoods like a fossilized riverbed, depositing and subtracting economic value like so much shifting sediment along its banks. A railroad leaves these pockets of vacant space, like sandbars, washed up at various points of its path through a city. This empty space is a time capsule when viewed through the lens of ongoing gentrification nearby: at one point this space was undesirable. Now it is something precious in a rapidly changing built environment. It is something which relies on active participation, on cultivation, in order to exist.

In landscape architecture, the term 'desire line' describes a visible mark left on the landscape by frequent traffic, moving through spaces which were not designed in anticipation of that traffic. A desire line can take the form of a diagonal footpath, trodden across a wide green lawn, in a fire escape ladder left dangling at ground floor, or in the series of holes routinely cut into the chain link fence which attempts (with futility) to prevent pedestrians from taking a shortcut across the train tracks.

Taken more literally, the train track itself can be seen as a line describing desire. It cuts through the landscape, connecting to a great skeletal framework which spans the continent now called North America, and then to various ports globally. This track's path traverse neighborhoods, roads, mountains, rivers as it extends between points of commerce. The shape of this steel skeleton, considered aerially, describes the outlines of extractive colonial desire. The shape of the skeleton is something arterial, bloodpaths carved by a system in motion which crosses borders, which outlines the boundaries of nation states, which marks the pathways of commerce and migration. This train track has witnessed my own desire, carrying my body across the US-Canada border more than once.

The train track, like an antennae, is a conduit which facilitates circulation, and which facilitates certain kinds of desire through this circulation. Like an antennae, a train track runs both ways, coming and going, transmitting and receiving. Like the telegraph, like the telephone, like DSL, trains run on a series of long iron and steel lines that sketch the contours of a global dominion of capital.

Like a radio frequency, a train doesn't need to be private property, but in this location and time, both are private more often than not. The earliest railway lines in so-called Canada were the endeavours of venture capitalists, linked to extractive industries. This is especially true here, where I am writing between a fence and a train track, in what is now called Montreal, where these early infrastructural projects carried stone, coal, water long before they carried passengers. Meanwhile, Canada's first commercial radio station began broadcasting in 1920, over a century ago, just 5 km from where I currently sit, twelve years before the advent of public broadcasting. Development of both these railroads and radio transmissions relied on ongoing mineral extraction and refinement, a metallurgy producing lines and wires to carry still more resources, commodities, and eventually people.

A radio frequency, like a train track, may be privatized and yet still infiltrated by various publics, pedestrians and sometimes pirates, coming in through holes in the fence. This infrastructure is always present, an obstacle, a series of fences, a factor which must be negotiated in a pedestrian journey from here to there. This infrastructure can come to seem like a natural feature of the landscape, like radio; the infrastructure can deceptively come to be seen as something which was always already there, much like capital.

I am sitting in the space between this freight line and the chain link fence, having come through such a hole in the fence. My crystal radio receiver comprises a coil of wire; a crystal diode; and a paper clip. This receiver must be connected both to the ground and to the sky to detect

transmissions. I have selected as my ground the largest piece of metal I can reach, the rail which is nailed down into the earth. I have selected, as my extension toward the sky, the netted aluminum structure of this chain link fence. When I have connected myself, by way of a metal clothesline and a long copper wire, to both the train track and the fence, I am able to perceive the radio waves which were already present, with aid from infrastructure which was also already present. A fence is a barrier, but it can also be an antenna; a train track runs both ways. Power accumulates and collects along these lines, power which can sometimes be diverted, tapped, or channeled for other purposes.

I am sitting in this space, tethered to the train track and the fence, and I am listening to transmissions. This is not a tuneable receiver, which means that several nearby AM transmissions are audible simultaneously, in varying degrees of strength and clarity. When I tap my finger against the crystal diode, I hear a brief burst of a car commercial, conducted through my very body. I press my finger against the coil, and the transmission gains strength in signal through my innate electrical fields, the conductive properties of salt and moisture on my skin. Consider what it means that your body lends strength to signals, through sheer proximity. Consider the body as a conductor: lines of power take shape within and around you, like an antenna, like a railroad, like a border, like a fence. Signals are speeding through and past us at all times: radio waves, trains, information, commerce, the infinite narrative details and locations where our mundane lives intersect with the nearly unthinkable scale of global systems, and beyond to the universal materials and structures governing our physical reality.

I hear interference, the sound of natural radio, of cosmic energy waves asserting themselves within and alongside the contents of a transmission. The timbre of this interference is formed by the weather, by my location, by the Earth's atmosphere. This interference sounds like gaps, breaks, static, crackling, holes and halts. This interference sounds like people collectively cutting openings in a fence. It sounds like indigenous activists bringing the grinding gears of transit to a halt in solidarity blockades in Oka in 1990, in Kahnawake in 2020, in years to come. This interference reveals a mosaic of voices, a simultaneity of purpose and happenstance overlapping in audible space.

What acts of detection must be performed to come to perceive the invisible currents in which we are already immersed? The act of "tuning in," of "receiving" through even such a humble apparatus as this homemade receiver, permits access to a perceptual world which might form the basis of a commons. This cacophony describes a world of individuals acting around us, on us, and a world in which we are also actors in these systems. It describes radio as a spectral space, a continuous wave, something which flows around, across, and through borders. Through this chaos of voices, what are the places where a singular path, a line of desire, becomes a trajectory shared with others? Alternately, this perceptual space might indicate where our commons have already been coopted, privatized, fenced. You may find yourself in the grip of a riptide, riding a carrier wave unthinkingly to a preselected destination.

With a tuneable radio, you can hear these voices one at a time. The act of "tuning" between frequencies, of refining the signal, requires one's active participation. This participation is an act

of synchronizing oneself with others, in real time, in a physical space bounded by range and reception. It involves an acknowledgement of shared space, this specific place with electromagnetic properties which you inhabit with others at this specific time. What are the waves passing through your body, and through those nearby? Do you know what you are carrying, or what may carry you?

What we hear when we turn on the radio is a translation: energy carried in electromagnetic form is transformed (or transduced) into mechanical energy, that which is detectable by human ears. Transmission, reception, and listening require active shifts between states of energy, states of being. And what follows? An unquantifiable transduction, by which the mechanical energy of audio becomes kinetic, animating (and animated by) the body; we receive, we hear. The contents of the carrier waves have a way of directing ideas, of organizing action, of synchronizing bodies across space and time.

Somewhere between the rush of information captured by the coil, and the deliberation with which one might move between captured frequencies, is an open space. Unplanned, unplannable, productively fallow. You can't entirely fence off the electromagnetic spectrum; it is a space of interference, indeterminacy, a shared space of mutual exchange with our environment and the physical properties of the very universe. In these open spaces we might meet others like ourselves, climbing through a hole in the fence, clearing spaces for connection, interfering in the airwaves as we pursue a course of shared desire.

1 hour recording received through crystal radio, 2021:

https://drive.google.com/file/d/1z4ZAv9OF_HC76xelQSGvyhHxspSTjfGB/view?usp=sharing

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The Border is Nowhere

They told me I could take a bus to the border and back. It seemed odd: it struck me that the port of entry on the US-Canada border was not really a destination, but a kind of airlock, something you are squeezed through on your way elsewhere. But I needed to cross the border and then return in order to process my visa, so I went.

The bus ticket (Destination: Montreal to US Customs; Return: Canadian Customs to Montreal) cost more than it would have cost to go to Burlington round-trip, over two and a half additional driving hours. I briefly wondered if I should have bought the cheaper ticket. Maybe there would be something worth seeing in Burlington. I remembered a previous drive, all strip malls and box stores. I considered that one is never really seeing a place when circling around it: the most banal parts of a city are what gets pushed to the margins. Nobody wants to see the architectures of logistics that make their lives convenient. Box stores, retail, light industry are housed in the most anonymous forms possible: long concrete bunkers, windowless, low, hulking things. From the elevation of the highway, you can skim your gaze along the roofline and imagine it's the horizon.

In the end I didn't go to Burlington. I left Montreal on a Saturday morning in late August, a muggy day, and watched the low-hanging wooly clouds swim by through the dim Greyhound window. Probably I read; probably I watched as Montreal's perpetual halo of construction unfolded into suburbs, and then into farmland. Probably I periodically put my hand for reassurance on the plastic folder full of documents in my backpack; probably I felt some knot of anxiety in my stomach; probably I prepared responses to questions no one had yet asked me.

Southern Quebec is so flat, and the horizon seems so distant, that the border comes as a shock when you arrive at it. A sudden cluster of low rectangular buildings, awkwardly plopped on the end of a curve in the highway: first you see a billboard, then you're there. The land rises slightly on the Vermont side, and the forest begins to creep closer to the road, all of which gave me the peculiar impression that I had arrived at the corner of a room where the floor abruptly meets the wall.

Taking a bus to nowhere is technically legal, but practically unheard of. US Customs agents seemed confused and skeptical when I explained my plan: to cross the border on foot, and walk back to Quebec, a distance of less than a kilometer. I would go through customs there, and return to Montreal on the next Greyhound to cross the border going north. I felt odd explaining the workings of the border to those who keep the gates. It seemed to me that people should know how their own systems work, but the truth is that no one understands these mechanisms until you have a reason to use them. No one stopped me, but the palpable consternation of the agents, the bus driver, and the other passengers as I began walking away from the bus was almost a physical restraint.

Crossing the border on foot in this way is technically legal, but practically unheard of. It's a possibility that was not considered in the design of the built environment that stretches between the two ends of the port of entry, a distance of less than a kilometer. It's legal to

be a pedestrian there, but it's not accounted for, meaning that I ended up walking along the edge of the highway. The day had grown hot by the time I exited US customs and began my walk. The humidity, the glare of the sun, the temperature all seemed to compress the boundaries of my body, leaving a renewed physical awareness of my outlines, the warm weight of my backpack, the swing of my legs in each plodding footstep along cracked asphalt. Goldenrods bloomed thickly along the margins of the highway, a haze of tiny yellow blooms as high as my chest, before disappearing into the edges of the woods. The heady drone of cicadas and crickets were overwhelming, entrancing. I had an eerie sense of slowness, like being trapped in amber, nearly outside of time. I stood as if suspended in a mirror, held between two sterile concrete cubes, awash in a sea of yellow blooms. The border dissolved: the twin offices, the sluggish concert of vehicles, the air-conditioned chambers between which I moved, all receded into some realm of the lesser real, a pale hologram against the intense physical presence of the living landscape. It seemed that the only things moving were a fat black bumblebee, lazily coasting between stalks of goldenrod, and my two feet plodding a path on the left edge of the highway where it cracked and dissolved into gravel and soil and greenery.

Traffic was slowing and congealing into lines as we neared the customs office. Like the lack of sidewalk, there was no pedestrian entrance to customs here: everyone who crossed the border was expected to pass through the same checkpoint. I slipped off my path on the shoulder of the highway and into line between a sixteen-wheeler truck and a minivan, to the perplexity of drivers on all sides. I waited for some time behind the truck, moving forward slightly as cars were admitted through the gate one by one. The sense of scale felt preposterous: I was minute, an insect, a child, dwarfed behind this enormous wheeled steel cube. This road, these checkpoints, were designed to facilitate the movement of some cubes between other cubes, a fractalized modular arrangement of cardboard boxes and shipping containers and suburban strip malls. No designer had considered the movement of two-legged animals through this space.

It occurred to me that this was the point: kept enclosed, in boxes within boxes, it's possible to miss the field of goldenrod I found in between those mirrored concrete buildings. The border dissolves when you get the chance to look too closely. The hard cartographic line of the border fractures into dots and half-tones, and then into clouds of mustard-yellow blooms, extending in all directions and punctuated by the dizzy, wandering paths of pollinators.