

Pulsar Concerto

Exercise for pulsating radio star PSR J1652+2651, radio, and listener

Written by Carmelo Pampillonio for the Aerocene Symposium's Aero-Acoustics workshops, as part of Tomás Saraceno's "Carte Blanche" exhibition "On Air" at the Palais de Tokyo, 2018.

In the vacuum of space, sounds indeed exist, but in the enigmatic form of electromagnetic vibrations. A chaotic sea of shimmering, swirling frequencies emanate from any astronomical object possessing a magnetic field, traversing the void via a nonhuman axis: that of radio waves. Pulsars, or rotating neutron stars that emit beams of electromagnetic radiation from their magnetic poles, are a remarkable source these vibrations. As the spinning sarcophagus of a once-massive star's catastrophic death, pulsars spew streams of radiation that can propagate for billions of light years, making them distant vibratory beacons. We are surrounded and suffused within the thrumming surges of these waves as they lathe the entire earth from all directions (there are an estimated billion potential pulsars in the Milky Way alone). Yet despite the fact that these resonances relay through the body's bones and cavities, they pass undetected by the human sensorium.

I: Pulsar Concerto

Begin the day by radioing a descriptive narration of your current interoceptive state of being to pulsar PSR J1652+2651 (coordinates: RA 16 52 03.09; DEC 26 51 40). The pace of your narration is set to your own heartbeat. Continue for 9556.382 years, until the signal is received by the corpse of the star.

In listening to these electromagnetic vibrations, we are tapping into open links which allow us to converse with the aged specters of extraterrestrial entities. These traces act as tendrils of relation, spanning across scales of distance and time unimaginable outside of numerical representation — and likely warped by gravitational lensing. The vibrations that you hear from PSR J1652+2651 were emitted around the time when barley and wheat were first cultivated in Mesopotamia — roughly 5,000 years before writing was developed. Yet where imagination and historical references leave us with hazy conceptions of scale, distance, and time, we can listen and feel to obtain a pathic understanding. The emissions of these radio stars read sequentially, delayed but unfurling before us like any other telecommunications message. Here the parlance of giants is compressed through the poetics of deep time. Like a frenzied daemon, these stars erupted in a luminous supernova rage until, exhausted, they collapsed in on themselves. Through these transmissions we traverse the void to spy on their searing corpses.

II: Echolocation

While sitting or standing, cover your eyes and breathe gently. Your exhale is longer than your inhale. Gradually, with your eyes still covered, open your ears as if they were eyes. Determine the quietest direction to face and slowly turn toward it. Focus on the spatial imbalances of volume from where you are located. Feel these pressure waves as oceanic weight. Feel them more than your own body. Imagine how this imbalance might change if you were elsewhere. If another direction seems to become quieter, you may slowly turn to face it. Continue until your sense of time is irretrievable.

To hear these electromagnetic vibrations while understanding that they are surging around and through our bodies, beyond the cochlea, across the street and under the skin, is to undergo a multisensory confrontation — one that gives a sense of both alterity and immediacy. A sounding that always already extends beyond the ears. Transduced from the radio axis to the acoustic axis, the nonhuman is rendered sensible to the human, compressed through a wine bottle and abstracted into our language. Yet this is all for the sake of devising non-anthropocentric reimaginations of scale and agency within the ‘nature-culture continuum’, to borrow a term from Brian Massumi. Hearing these deep tremors crackle through the void can be both unsettling and soothing, like the purr of a cat the size of our sun (which has an average diameter of 864,000 miles). And this is all it takes to gain a pathic understanding that is it *our* presence that falls within *their* path, like a corporeal gaze directed back toward us. This facilitates a ‘coming to our senses’ that involves a decentering of the knowledge we’ve produced for ourselves. It is in this sense that these vibratory forces insist themselves into the social. They are not in any way ‘here for us’ yet we cohabit space; a reminder that affect is a two-way street, traffic and all. These forces are, as Joanna Zylińska says of the Anthropocene, “an interpellation to challenge the human as the key subject of history.”

Listening to/feeling the reverberant drones of objects of such great magnitude and at such great distances aids a critical reframing the human sense of scale, and has vast implications. This is a listening/feeling that transforms how we see ourselves: our all-too-human senses of temporality, agency, and interconnectedness. We are defined by our relations, so if our sensibilities are tuned into even a sliver of the sheer excesses of nature, then perhaps our social and environmental rhetoric can undergo a refreshing shift with this new understanding. By exploring the unfamiliar liminal regions of perception and knowledge, we are lead into an investigation of identity. Here we return to void.

III: Electroponic Listening

When indoors, lose yourself in the sound of the lights. Concentrate on how the yttrium oxide from the LED or fluorescents reacts inside your retina, or on the hairs of your arm. Focus on the perpetual sensation of your cochlear hairs trying to assume a resting position.