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A Sonic Distillation of Rock Radio

On Matt Rogalsky's *Discipline* (2011) for twelve self-resonating Fender Stratocaster guitars shadowing a classic rock radio station.

The guitars sit propped in their stands attentively, each a solid body, each a solid retro-1950s colour, waiting to be played, twelve of them, as though disciples, but they go untouched. They are on stage, awaiting their moment to sing, only to perform as still-lives, necks and strings under tension, with resonant potential, designed to be struck and stroked, yet remaining un-picked and un-plucked, due to the conceptual and surgical re-wiring of their electromagnetic configuration.

A local rock 'n roll radio station plays unheard, behind the scenes, broadcasting live in a processed quasi-silent reduction of classic rock – a quietude of raunchy tunes and psychedelic explorations reduced to a bare essence of tones extracted from the ecstatic mayhem of rock anthems. The radio station feeds a computer algorithm that deciphers frequency band thresholds, making automated decisions to splash clusters of chromatically-tuned sine waves in bandwidths of 3 to 4 octaves, at an array of modified amplifiers that increase those rock tune extractions to high voltages that are shocking to human touch. The high-voltages drive the guitar pickups to activate the guitar strings into resonant waves that are reminiscent of organ tones.

Thus, the guitar strings become surrogates for organ pipes that play on, church-like, as the gallery becomes a cathedral celebrating abstract renditions of the greatest rock songs of all time, a pantheon of tunes by Jim, Jimmy and Jimi, John and Janis, Bob and Bruce, and, depending on local airwave availability and level of corporate programming, probably a heavy dose of a Billy, Rod, and Elton. But the drum kits, fuzz pedals, horns, keyboards and vocals have vanished, as the instrumental articulations are smoothed out to become shadows in sound, replaced by curving tonal waves echoing an e-bow-like drone, transforming the sound of the twelve-guitar choir playing cover versions of the greatest songs of all time, into a sonic replica of the Vox

Humana.

The successive tones are distributed through the ensemble of 12 guitars, continually moving from one guitar to another, in the form of a Schoenbergian *Klangfarbenmelodie*.¹ However, there is only subtle variation in tonal colour from one guitar to the next – attributed to subtle differences in octave/unison tunings of each guitar – therefore the *Klangfarbenmelodie* effect is somewhat diminished. On the other hand, the melodic movement articulates spatiality, that is, the melodies not only move up and down in pitch sequences, but also in spatial placement throughout the guitar ensemble, since each guitar is tuned in octave unisons to one of the twelve pitches of the chromatic scale.

However, there are some ghosts on the other side – in the secret shadows of the technical room, David Tudor's (the sound art pioneer) transformers transmit the diluted rock tunes, now reduced to sine tones, into the high voltage audio signals driving the reverse-wired guitar pickups.

Flashback: Around 1832, Mexican and Spanish cowboys arrive in Hawaii at the invitation of King Kamehameha III, to teach local ranchers how to manage an overpopulation of cattle. They bring their guitars with them and introduce the Spanish guitar to Hawaii. When they leave a few years later, some give their guitars to their hosts, who assimilate the instrument into their traditional music, eventually retuning, detuning, and inventing what becomes known as slack-string guitar tuning.² Hawaiian slack-string tuning eventually merges with African-American blues guitar detuning and retuning, to become a significant ingredient in rock music from the early 1960s onwards.

Rewind: In 1925, the electromagnetic cartridge is introduced as a phonograph (record player) pick up, and begins to be used experimentally as a guitar pickup throughout the late 1920s and 1930s. The first Rickenbacker solid-body guitar (nickname: The Frying Pan), using electromagnetic pickups, is introduced in 1931.³

In 1941, Les Paul is electrocuted while experimenting with improvements to his version of the solid-body electric guitar (nickname: The Log).⁴

Leo Fender produces his first solid-body guitar prototype in 1949 and markets the solid-body Fender Esquire in 1951. ⁵

The Fender, Gibson Les Paul, and Rickenbacker guitars lay the foundation for the development of Rock n' Roll and still play an important role in the genre to this day. (At the same time, slack-string retuning is adopted across genres ranging from Rock, Blues, and Punk to experimental and avant-garde.)

Pause: In 1950, Morton Feldman introduces David Tudor to John Cage, thus instigating one of the most important collaborative partnerships in 20th century avant-garde music. Feldman, Tudor and Earle Brown assist Cage in his Project for Music for Magnetic Tape (1951-54). By the early 1960s, David Tudor teaches himself electronics and gradually leaves the world of concert piano performance to pioneer the world of the self-taught composer-inside-electronics (to reverse-apply the name of the group assembled by Tudor to realize his 1973 installation *Rainforest IV*).

Rewind: In 1960, John Cage composes *Cartridge Music*, where phonograph cartridges are affixed to any number of unspecified everyday objects which are amplified and controlled by performers who create their own scores using graphic score materials provided by Cage. This was most likely the first use of live pickup amplification in avant-garde or experimental music.

Fast-forward: David Tudor assembles a group of younger composers and sound artists working with electronics to assist him in his installation *Rainforest IV* at “New Music in New Hampshire” in 1973. The group assumes the name Composers Inside Electronics and follows up with a series of collaborative performances from 1976 to 1981. The group re-forms in 1996. The group is still active (as of 2016) with a changing roster over the years, including Nicolas Collins and Matt Rogalsky. ⁶

Rewind: In 1981, Nicolas Collins invents the “Backwards Electric Guitar” by reverse-wiring the guitar’s magnetic pickup to an amplifier that sends audio signals into the pickup that subsequently activates sympathetic resonances in the guitar strings. He composes a number of works over the ensuing years and continues to design new

instruments based on the principle. ⁷

Fast-forward: In 1993, Rogalsky begins his post-graduate studies at Wesleyan University in a program founded and developed by Alvin Lucier, beginning in 1968. Previous students include Nicolas Collins, Ron Kuivila, and Douglas Kahn. In 1994, Kuivila introduces Rogalsky to David Tudor. Rogalsky joins the team that is sifting through the contents of Tudor's house and studio at Stony Point, NY, as Tudor, due to failing health, is now in a local home with a caregiver. Rogalsky is tasked with interpreting, deciphering, and cataloging contents of Tudor's studio. It is during this time that, with Tudor's permission, he gathers some of Tudor's surplus electronic materials to take with him for future use. These items include twelve small transformers that are eventually used in *Discipline*. Rogalsky interviews Tudor several times during this period, and these interviews go on to form the basic research for his PhD degree through City University, London, on the subject of David Tudor's *Rainforest*.

So, *Discipline* follows a clear lineage stretching from David Tudor, through Nicolas Collins and on to Matt Rogalsky. There is clearly a defined artistic practice, that of the self-taught electronics-tinkering sound artist, a practice first developed and applied by Tudor and then followed by numerous others since. This practice often involves taking technological elements or objects, undermining their original purpose, and reapplying them in previously unintended ways. In this case the magnetic guitar pickup, arguably one of the most important technological elements in the development of all genres of Rock music, becomes a processor and re-transmitter of radio station signals, in addition to being a key element of the originally transmitted signal content.

Perhaps one of Tudor/Collins/Rogalsky's closest technological relatives, yet remaining distant in terms of musical genre, is Les Paul, a tinkerer-inventor-musician-composer himself. Although his genres of music were country, traditional jazz, and popular song forms of the time, his tinkering and inventive work on guitar amplification, multi-track recording and signal processing, aligns him as closely to the

sound artists of the 1950s, 60s and later, as to his guitar inventing and manufacturing contemporaries Fender or Rickenbacker.⁸

However, the singularly unique element that sets most sound installation at opposite ends of the spectrum from pop or rock music, is the distancing or removal of persona from the medium. Persona, character, and personality, are key elements in pop music that are conspicuously absent, or significantly reduced, in most automated sound installations. In *Discipline*, the reconfiguration of the electromagnetic design of the instruments has allowed Rogalsky to undermine the original intent of the instrument, to remove the persona and character of the performer, rock star, pop star, blues guitarist, etc.

The ordered array of electric guitars and amplifiers are the only remaining vestiges of the rock/pop star persona – the rock stars are reduced to lingering in the ether, absent from the stage, either unwilling or unable to show up for the gig, ironically undermined by a technological repurposing of the rock star's most essential tool of stardom – the electric guitar.

¹ Wikipedia. "Klangfarbenmelodie" wikipedia.org. <https://en.wikipedia.org/wiki/Klangfarbenmelodie> (accessed February 29, 2016)

² Dancing Cat Productions. "A Short History of Hawaiian Slack Key Guitar (Ki Ho'alu)" dancingcat.com. <http://www.dancingcat.com/shorthist.php> (accessed February 29, 2016)

³ Ken Achard, "The History and Development of the American Guitar" (Westport: Bold Strummer, 1989), 19.

⁴ Wikipedia. "Les Paul" wikipedia.org. https://en.wikipedia.org/wiki/Les_Paul (accessed February 29, 2016)

⁵ Fender Musical Instrument Corporation. "Our History" fender.com. <http://www2.fender.com/features/about/> (accessed March 1, 2016)

⁶ Composers Inside Electronics. "CIE–History" composers-inside-electronics.net. http://composers-inside-electronics.net/cie/cie/cie_history.html (accessed March 1, 2016)

⁷ 7. Nicolas Collins. "A Brief History of the 'Backwards Electric Guitar' " nicolascollins.com. <http://www.nicolascollins.com/texts/BackwardsElectricGuitar.pdf> , 1999 (accessed March 1, 2016)

⁸ Wikipedia. "Les Paul" wikiedia.org. https://en.wikipedia.org/wiki/Les_Paul (accessed February 29, 2016)