# AN ETHNOGRAPHY
## OF
# CIRCUIT-BENDING
## Reuse, Chance, and Collaboration with the Living Instrument



## RESEARCH METHOD

I conducted ethnographic fieldwork from October 2009 to February 2010 amongst Midwest circuit-benders Pelzwik, Talking Computron, Creme Dementia, Tim Kaiser and Roth Mobot. A review of Reed Ghazala's seminal book Circuit-Bending and other topical discourse on electronic composition places a lens of musical anti-theory over my cultural analysis, and reveals underpinnings of counter-convention sentiment and aspirations of a true originality only achievable through a collaborative dialogue that merges the intenionality of the composer with that of the machine.



Circuit-benders in the Midwest maintain a sparsely distributed but communicative and close community. The unique and egalitarian nature of the art form draws like-minded musicians to the craft, and internet communication and collaborative shows with performers spanning states keep the community constant and evolving.

REED GHAZALA is an instrument builder and the self-styled "aleatoric" (chance) composer who, as a teenager in the mid-1960s, stumbled upon the power of creatively short-circuited analog sound devices. After much exploration, he subsequently "wrote the book" on circuit-bending. Ghazala's most pertinent supposition on the nature of music technology is that a circuit-bent device is a "LIVING INSTRUMENT," with its own type of agency, will, and a distinct disposition.

Circuit-bending is a folk expression of randomly conceived analog electronic music. Implicit in the nature of its inception and continuation are the alteration and recontextualization of corporate sound synthesizers, use of chance as opposed to convention to generate musical ideas, and a surrender of intentionality to the idiosyncratic and fleeting "living instruments" that are circuit-bent gadgets.

## "LIVING INSTRUMENTS"

Circuit-bending is the chance modification of analog sound generators; anti-theory governs the creation of Ghazala's living instruments. The circuit board of an audio device is altered by soldering switches, dials or other resisters into the circuit path; the connections made are determined by a process of random exploration and chance trials with loose wire. Complex performances are produced without the scaffolding of conventional composition memes; instead the building blocks for circuit-bent compositions come from the interaction between the performer and their living instruments. Living instruments are transient; their electrical design parameters are being pushed for their every use, which often eventually results in device failure. The cumulative alterations that these stressed connections make amount to the development of an evolving and unique persona during the tangible "lifespan" of the instrument.

## CHANCE COMPOSITION

ANTI-THEORY as a label connotes abandonment of the theoretical rules that create the compositional confines on much of today's mass-produced and popularized Western music. CHANCE COMPOSITION inherently obeys no rules; as such it exemplifies anti-theory. Chance composition is an idiomatic tribute to the beauty of serendipity. Sounds generated with living machines are looped and otherwise prolonged, and a new type of order emerges from the chaotic intersection of intentions.

## RECYCLING

Circuit-bending also serves as a commentary on the digital age of sound generation; the corporate-influenced, passive homogeneity of digital loop and sequencer composition is contested by the fertile dialogue between human and altered machine. Along with this refutation of corporate creative control comes a retroactive reuse-an upgrade, a circuit-bender would argue-of those devices which producers strive to make obsolete. Rejection of imposed obsolescence draws proponents of retro culture and those with "green" sentiments to the fan base, and the creative recycling of discarded goods speaks to a scavenger ethic that is ultimately proactive in our overpopulated world.

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