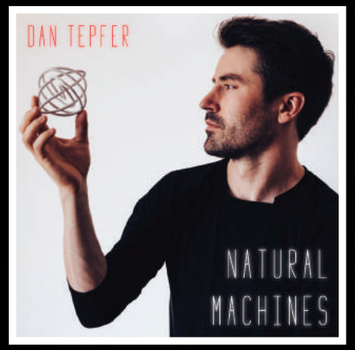
# Rhapsody in Code

## Dan Tepfer finds a simpatico collaborator in his Yamaha Disklavier.

**Dan Tepfer has been thinking about the downside of** mastering your craft, how it can lead to complacency. "I've been making music my whole life," he says. "Your creativity can become a little bit limited in the sense that you don't see all the options in front of you. You kind of lose your innocence after a long time." Tepfer has spent his career pushing his boundaries, from mining Bach's *Goldberg Variations* as inspiration for a series of improvisations to collaborating with the likes of Lee Konitz and Renée Fleming. But the pianist's latest project is something else completely, with Tepfer using his computer programming skills to create a new musical experience.

About five years ago, Tepfer, who has a degree in astrophysics, began programming a set of musical rules into Yamaha's Disklavier self-playing piano, which would play real-time responses to Tepfer based on those rules. Those experiments have resulted in *Natural Machines* (Sunnyside). The audio-only release showcases Tepfer freely improvising with the programmed computer responses. But there's also a video album — available on YouTube — with computer visualizations (also programmed by Tepfer) rendered in real time, representing the underlying musical structures of each piece (pitch, harmony, dynamics and so forth).




What's most striking — along with the stunning visuals — is how human it all sounds, as if Tepfer were engaged in a deep conversation with another musician. It's impossible to tell where Tepfer ends and the machine begins. That's because the computer can only respond to whatever Tepfer plays, meaning his musical instincts remain at the forefront.

"The minute I don't listen to the [computer's] response the way I would with Lee Konitz, the whole thing becomes incredibly stale," Tepfer says. "One of the things I felt acutely with this project is that it lives or dies with my abilities as a musician. The minute this becomes a technological gimmick, then I'm totally uninterested in it."

To prove his point, Tepfer is applying some of the lessons he's learned from this project — experimenting with free improvisation based on a set of rules — to his work with live musicians. Ultimately, it's provided Tepfer with a newfound sense of freedom and another means of fighting complacency. "When I sit down at the keyboard with these algorithms responding, it suddenly feels like a really new experience for me," he says. "In many ways I want to replicate that experience when I'm on stage; I want to replicate that feeling of freshness, of discovery."

**—John Frederick Moore**

Photo by MariaJarzyna