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| **The Role played by each of Three Overarching Themes in**  **H:** CantoVario—Melding Chaos Science, Acoustics, Signal Processing, and Music | |
| **Lifelong**  **Learning** | Teaching myself everything I could about nonlinear dynamics and chaos, musical variation, acoustics, signal processing, and entrepreneurial thinking. |
| **Intrinsic**  **Motivation** | Moving my musical variation projects out of the lab and into the wider world |
| **The Creative Process** | Exposure to different modes of doing, thinking, connecting, and expressing through engagement with: |
| Stimulation/impetus | Thinking about aliasing while driving to Olin for my Signals & Systems course, then having a flash of insight that unlocked myriad algorithms for MIDI and audio variations (captured in the 2016 issued patents). Showing up at my June 2017 annual review where Olin’s provost noticed I hadn’t written much about CantoVario in my annual report. I had hit a wall yet felt close to a breakthrough. The breakthrough invention popped out the next morning and led to the mashup variations on cantovario.com, a 2017 provisional patent application, and a 2018 utility application (now pending). |
| Preparation/Scaffolding | My mentors at the MIT VMS, participation in the NSF I-Corps SPARK Program at MIT, followed by the NSF I-Corps National Teams Program and Partnerships for Innovation—Technology Transfer (PFI-TT) |
| Application | Audio web app (CantoVario Mashup), MIDI web app, Variations of individual MP3 songs |
| Feedback | MIT VMS mentor meetings; monthly meetings with an MIT VMS IP expert; MIT VMS 2014 Demo Day, 2016 Snapshot Pitches, 2017 Entrepreneurial Edge, 2018 SPARK Program, 2019 FUSION Program; NSF National Team I-Corps and PFI-TT; Wellesley College, Berklee, Olin, independent musician-producers |
| Revision | Continual development of algorithms in MIDI and audio formats, which in turn led to additional algorithms, but now in the other format. For example, I discovered that the audio algorithms devised as a result of the “flash of insight” mentioned above under “stimulation/impetus”, in turn unlocked myriad algorithms, now applicable to MIDI variations of songs. |
| Effective Communication | Communicating a new artistic experience: Moving the man and woman in the street with a contemporary take on musical variation, directly tapping the human soul to “sing” in ways it never knew it could |