If you please, allow me to introduce Professor Dance AI

And if you only hold me tight /
We'll be holding on forever //
And we'll only be making it right /
'Cause we'll never be wrong together //
- Total Eclipse of the Heart

The critical question today is the question of sustainability. We are in a race between pollution — the physical manifestation of our ignorance — and education — the ability for the mind to master matter. Education is the most important thing we can be thinking about in the world. A lot of very smart people are thinking about education. Computers are being used to expedite the learning process. And yet, will it be enough? Are we missing something?

I say the blind spot of our civilization is creativity. In order to combat the momentum of our hurling the Earth toward self-destruction we will need new ideas, unprecedented thoughts. In our use of computers to cultivate creativity, there is actually an algorithm that may assist our creative mojo: Novelty Search [1]. It is common lore that the first metallic alloys were the result of happy accidents. Unbeknownst to the metallurgist, the mistake of spilling copper and tin together created the novel alloy bronze. We need to create spaces where our creatives can stumble into solutions never seen before. One breakthrough will pay for all the fizzles.
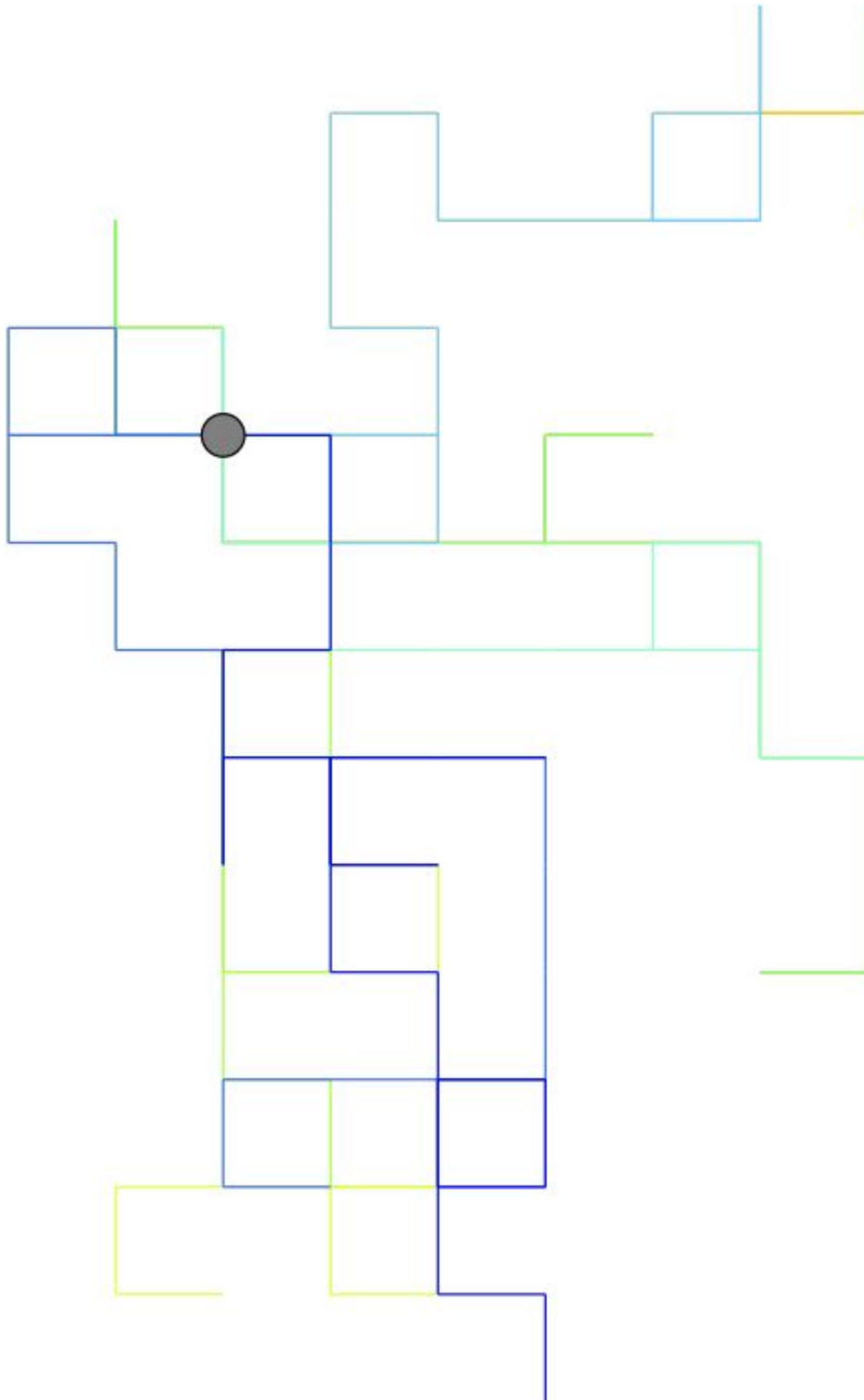
There is already a discipline where novelty search is an inherent attribute [2], yet it is one of the furthest from integration with computer science. It is the science of dance which everybody knows new moves define fresh grooves. Furthermore, dance invokes our senses to be in touch with our own experience and be able to express it in a way that is true to ourselves. As one of my dance teachers used to say, "you cannot use dance to lie." Considering the fact that a major portion of our problems of sustainability stem from our being out of sync with Nature and implicitly ourselves, having more dance education in our lives might be the difference between planetary life and death.

Therefore, I have broken the ice on computational dance education through my proof of concept *Professor Dance AI*. Professor Dance AI uses Genetic Algorithm Novelty Searching to demonstrate how we can create new pathways through space and permute new connections through combinatorial flow blending. In a tango twist of fate, I propose rock and roll will redeem humanity. You feel it moving your body.

Some folks are born made to wave the flag
Ooh, they're red, white and blue
And when the band plays "Hail to the chief"
Ooh, they point the cannon at you, Lord

Figure 1: Professor Dance AI Lives

References:

[1] http://tinyurl.com/ProfessorDanceAI
[2] http://www.science20.com/news_articles/theres_science_dancing_also

Appendix I: Excerpts from *Critical Path* and *Education Automation*
https://itunes.apple.com/us/book/critical-path/id1040335889?mt=11
"With a private room, television set, and video-education cassettes as well as world-satellite-interrelayed computer and controlled video-encyclopedia access. These will make it possible for any child anywhere to obtain lucidly, faithfully, and attractively presented authoritative information on any subject."

"I am certain that none of the world's problems—which we are all perforce thinking about today—have any hope of solution except through total democratic society's becoming thoroughly and comprehensively self-educated. Only thereby will society be able to identify and intercommunicate the vital problems of total world society. Only thereafter may humanity effectively sort out and put those problems into order of importance for solution in respect to the most fundamental principles governing humanity's survival and enjoyment of life on Earth."

Appendix II: Excerpts from *Education Automation*
http://trimtabbing.jaimuse.com/Trimtabbing/Essays_files/Jaime%20intro%20to%20Lars%20Muller%20editions%202009b.pdf
"I would say, then, that you are faced with a future in which education is going to be number one amongst the great world industries, within which will flourish an educational machine technology that will provide tools such as the individually selected and articulated two-way TV and an intercontinentally networked, documentaries call-up system, operative over any home two-way TV set." [1962 — "two-way TV" = the internet]

"What I now propose is that all the universities around the world be encouraged to invest the next ten years in a continuing problem of *how to make the total world's resources, which now serve only 43 percent, serve 100 percent of humanity through competent complex design science.*

Appendix III: In praise of dance
http://trimtabbing.jaimuse.com/Trimtabbing/The_Trimtab_Principle.html
"Something hit me very hard once, thinking about what one little man could do. Think of the *Queen Mary*—the whole ship goes by and then comes the rudder. And there's a tiny thing on the edge of the rudder called a trim-tab. It's a miniature rudder. Just moving that little trim-tab builds a low pressure that pulls the rudder around. Takes almost no effort at all. So I said that the little individual can be a trim-tab. Society thinks it's going right by you, that it's left you altogether … the fact is that you can

just put your foot out like that and the whole big ship of state is going to go. So I said, "Call me Trimtab."