

Reanimating Our Nature

The liveliness of nature comes from the growth processes that animate every kind of change, behaviors that math cannot duplicate, as they come from emergent material systems that then navigate their permissive and reactive contexts. Of course, many great thinkers and scientists have studied and puzzled over nature's great array of forms. It seems that my deriving mathematical principles for the liveliness of nature --

Based on the continuity in natural change rather than principles of causation

-- is what allowed me to design CURVE to sensitively model and display the lively shapes of natural systems hidden within sketchy data. It was a choice to define data curves for continuities hovering over autonomous behaviors, rather than replacing them with our formulas, as an accurate way to make the curves traceable to the local contexts in which the recorded system's behavior is responding.

My idea is to help Google be the first to translate, develop, and publish a widely distributed and profitable advanced version of CURVE. My value to it, in addition to the now-legacy tools, would be working with application and coding teams across various fields to help them find their best uses for it. I'm approaching Google because I trust it more than other industry leaders to invest the effort and make money, profiting others by helping them see the real world they live in. That is also a critical and major paradigm shift for economics: from exploiting to caring for what we profit from. It's also only natural, though, much better than letting our world keep spinning out of control! :-)

Coding for the method began in the mid '80s and became powerful in the '90s, continuing through 2007, when the work was stranded by its host at the time (AutoCAD), changing so fast I could not keep up. The heart of the technique was published, though, in a paper and a book in 1999 (1). No one ever seemed to catch on, though, despite strong demonstrations and many efforts. So, it seems it was beyond the cognitive imagination of traditional paradigms back then, and still a challenge today. So that's much of the work needed now, to make it widely relevant and useful.

While sophisticated, it is much simpler than AI but could boost AI's learning in the same way as for individuals, displaying and making sense of the liveliness of emerging change in nature, as people on their own have so long found fascinating, appreciated, and discussed, and forming the subjects of language. Knowledge of nature was sidelined by the power of math, but might come to the rescue as well, if people are given the chance to more clearly see what's happening for themselves. Perhaps, as one might call it, "Augmented Real Intelligence" (ARI), using it as an educational tool to help people see the real shapes of change, could be one of its greater values.

Of course, why it matters now is the urgent need for people to see what we're doing to the Earth and to our societies, pushing both to their breaking points, seemingly like civilizations before.

Below is a more hopeful example of that happening recently and showing the clarity that CURVE can bring to complex changes. It's a sample of using CURVE's derivative reconstruction (DR) to find the image the '80s and '90s

Great New York City Crime Wave. It charts the horrendous experience of New York's Crack culture epidemic, and, thankfully, the city's communities quietly coming together to change the course of the city's life. Notice how the data curve threads through the middle of the data point fluctuations, retaining the flowing natural shapes of the change, still aligned with and traceable to events in their contexts. Most curve-smoothing erases much of the animation of the shapes, removing the liveliness that human eyes could read and connect with.

The Rise and Fall of New York City's Crack Epidemic

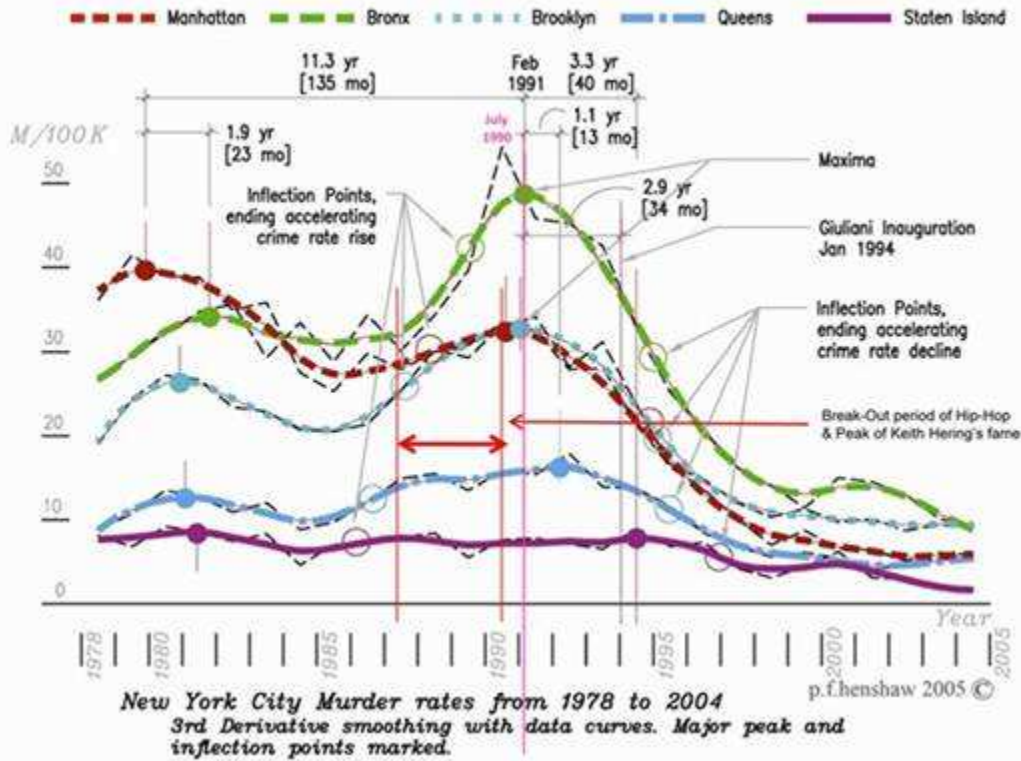


Figure 1) Figure 1) The climax and transformative end to the great New York City Crack epidemic, 1985 to 2000

In 1960, New York was a city of wealth and ghettos that erupted with great social change, seemingly triggered by the historic recognition of the civil and human rights of minority cultures, as part of the several social revolutions of the time. From the predominantly Black and Spanish ghettos, two distinct revolutionary cultures emerged. One was the dynamic and ever more violent crack drug culture, and the other the creative, artistic, and witty counterculture of Hip Hop.

They collided at a time when the whole city was responding in unison to the horror of the crack culture violence, invading and destroying the lives of so many of the popular neighborhood kids, that it turned out Hip Hop was able to talk to. The miracle was that that key intervention was just part of how the whole city organically responded together as the violence rose to its peak in 1990, to shut it down, making “crack is whack” the word, changing New York from the very frightening place it had become to “fun city” and a great revived place to live a few years later. As the process seemed to consist largely of good care by everyone, the real change went unnoticed or unreported until much later, and partly because most believed the whole-city-led response was caused by the politician who took credit for it.

As the DR (derivative reconstruction) of the data makes the true liveliness of the monitored natural behaviors more visible, the changes in the responding environmental context, shaping them both, also become more visible and traceable by alignment. It’s how the DR preserves the alignment of the contextual changes with the shapes of the curves that allows one to look at the data curve and not see equations, but instead see what was traceably bringing the events about.

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