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To: Jenna Kay; Amy Koski; sylvia@mosaicresolutions.com; Dana Hellman; Harrison Husting; tlunsford@parametrix.com; Nicole Metildi; Ben Duncan
Subject: "Applying Nature's Wisdom to Human Problems with Janine Benyus | TGS 135" on YouTube

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Here is a concise summary of the key points from the conversation with Janine Benyus:

Biomimicry is the practice of learning from and emulating nature's designs and strategies to create more sustainable human innovations. Benyus, a pioneer in the field, explains that nature has been "R&D-ing" for 3.8 billion years, providing a wealth of tested solutions that can inform everything from product design to policy.

The core of biomimicry is asking "what would nature do?" and then translating those principles into human systems. This involves not just mimicking forms, but deeply understanding the underlying strategies that allow natural systems to thrive, like using benign chemistry, leveraging local resources, and maintaining circularity.

Benyus sees biomimicry as a way to shift human civilization towards more life-enhancing, regenerative practices. This requires not just technical innovations, but a deeper reconnection with the natural world and a reframing of human values and desires. The goal is to position humanity as a cooperative, generous participant in the Earth's ecosystems, rather than an exploitative force.

Benyus advocates empowering people and communities to apply biomimicry locally - studying their own bioregions, mapping ecosystem services, and designing in service of life. She believes this "remembering" of our kinship with nature can provide the humility and inspiration needed to navigate the challenges ahead.

Here are some of the specific examples Janine Benyus provided for applying biomimicry:

1. Preservatives - Studying how organisms like brine shrimp and tardigrades can preserve themselves in a dehydrated state, and using that to develop preservatives for vaccines and other perishable products without refrigeration.

2. Plastics - Looking at how organisms break down and recycle materials, and using that to develop enzymes and processes for breaking down legacy plastics and creating new biobased, biodegradable plastics.
3. Industrial Ecology - Mapping the material and energy flows of a company or city, and then redesigning them to mimic the circular, regenerative flows of natural ecosystems. This could involve co-locating businesses to reuse each other's byproducts.
4. Regenerative Agriculture - Adopting farming and ranching practices that more closely mimic natural ecosystems, like perennial polycultures, rotational grazing, and shade-grown crops.
5. Building Design - Measuring the ecosystem services provided by the natural environment around a building (cooling, water filtration, habitat, etc.), and then designing the building to match or exceed that level of performance.
6. Community Projects - Forming local biomimicry "book clubs" to study the natural systems in their area, map material/energy flows, and collaboratively design more regenerative human settlements.

The key is looking to nature's models, processes, and principles to inform human innovation, while maintaining a deep respect and reciprocity with the living world.