

MORNING EARTH

Yearning to be Round:

A Primer in Ecological Concepts in 16 Parts

15. Biodiversity And Why We Don't Get It

Biodiversity is right now among the most important ideas on Earth.

The Principle of Biodiversity

In any living community, the more different kinds of animals and plants there are, the stronger that community will be.

• “*Bio* (life) + “*diversity*”(difference). **The more variety of life-forms in an ecosystem, or the more “life-differences” there are:**

- **the healthier the community will be;**
- **the more adaptable and resilient the community will be.**

For example, recently in Anoka County, MN, the first experimentally powerful proof of biodiversity in plant communities demonstrated that:

- the more diverse a community was, the less it suffered from drought.



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- the more diverse a community was, the more productive it was—it grew more seed, and grew more foliage.
- the more diverse a community was, the faster it recovered from damage.

This is fundamentally important knowledge that has profound implications for human societies.

We Don't Get It

The word “biodiversity” names ideas that should carry enormous urgency for us. But they don't. Why is that? We don't, or can't, seem to care all that much about it. Why not?

The evidence is that we find it an extraordinarily difficult concept to grasp. We resist understanding biodiversity. It seems that we cannot “buy into” biodiversity because the concept conflicts so completely with our experience of the world. Biodiversity is counter-intuitive for us. Our minds are simply not prepared to accept it as true.

What Gets in Our Way?

Two main perceptual screens obstruct our understanding of biodiversity:

(1) We still believe that “It's a jungle out there!” and simultaneously believe the contradictory statement that humans are above Nature. This is called “doublethink.”

(2) We see the physical world through “machine-colored glasses”

Civilization has been busy for several centuries denying that humans are animals, and busy claiming that we have evolved beyond our animal origins to the point where we control nature rather than it controlling us, and that our special relationship with a Creator makes our membership in Nature irrelevant, because this world and this life was created for humans as a preparation for eternal life somewhere else.

This is a way of saying that the rules don't apply to us: "Hey, you can't arrest me—I'm the Mayor's kid!"

This is also a way of saying that, in the long run, it doesn't really matter what we do to Earth, for it is only a waystation on our trip to Eternity.

We Wear Machine-Colored Glasses

We see through machine-colored glasses. For 200 and more years, Westerners have been seeing the world through machine-colored glasses.

By 1661, philosophers had begun to formulate a new conception of nature as an intricate, impersonal, and inert machine.

Seventeenth Century science, in the persons of Descartes and Sir Isaac Newton, left us with a view of the universe as an enormous mechanism, a sort of clockwork set in motion by its Creator that has been ticking along ever since.

In other words, our society has inherited a way of seeing Nature as a mechanism, which operates under certain rules, or laws, like any machine, so behaves like a machine. And in our mechanically—sophisticated society, there are certain things everyone 'knows' about machines.

We 'know' that the more parts a machine has, the more vulnerable it is to failure. Complexity in machines is a problem; a machine that is too complicated is likely to break.

In the Machine—World, More is Less:

- the Space Shuttles are the most complex machines humans have

ever made. They break down all the time.

- The cartoonist Rube Goldberg became famous for his drawings of ridiculously complicated and improbable machines which achieved almost nothing.
- Even a TV show devoted to funny home video provides an example: videos of creative and crazy ways to break an egg were excellent examples of Goldberg-style machines.

What are we to do?

How can we help prepare our minds for the concept of Biodiversity?

- 1) We can help people re-discover their intimate bonds with the rest of the natural world.
- 2) We can demonstrate the perils of monoculture.
- 3) We can offer people green glasses to wear.
- 4) We can find hope in our yearning for community.

We are Nature

We are part of nature—Nature's rules are our rules. Five minutes of TV news coverage of a tsunami or a tornado, or skin cancer, or a famine, shows that our much-publicized conquest of Nature is a fantasy, and at times a cruel joke.

Nature's laws are ours, but they are not the "law of the jungle."

It's not "a jungle out there," it's an ecology out there.

We still labor under a distortion of Darwin and evolution that focuses on "nature red in tooth and claw" and uses that as a justification for brutal and inhumane practices in human society.

This facile appropriation and application of evolutionary principles by apologists for the conservative industrial establishment of the 19th century was called **Social Darwinism**.

These apologists clumsily applied evolution's principles directly to human social structures. One, Herbert Spencer, coined the phrase "survival of the fittest," often wrongly attributed to Darwin.

The poor were poor they argued, because they were unfit to survive.

If you were rich, it was because you were more fit.

Helping the poor was hopeless, they said—it flew in the teeth of natural law! (Doesn't this sound like a modern welfare debate?)

The old timers who admitted that from dust we came and to dust we shall return had it right, of course. We are not only part of nature in the ways we participate in life, we are made of nature. We are of Earth in direct and intimate ways.

- Every atom of our flesh has been taken up from Earth, first by our mothers when we swam in Old Ocean Womb, then by ourselves as we breathed and ate and drank. We are, materially and literally, part of Earth.
- We each consist of physical materials that have been alive before countless times until we ate and drank and breathed them in and once again caught them up in the dance of life.
- We will each, in our turn, lay them down. That is recycling. We have always belonged to nature; everything alive on earth is built of earth.

Monocultures: More is Less

Monoculture is the practice of growing single crops on a piece of land, often for year after year. Midwestern cornfields are a typical monoculture. Usually that crop is one bred variety of one species.

Monoculture is also found in forestry, where a forest complex has been clearcut and re-planted in only one species, often poplar, sometimes one species of pine. A plantation of one tree species is not a forest.

We warn ourselves: “Don’t put all your eggs in one basket,” but it seems to be an extraordinarily hard lesson.

Monoculture is a managed refusal of diversity.

The practice and results of monocultures include:

- heavy use of chemical poisons (herbicides, insecticides)
- heavy use of chemical fertilizers
- increased susceptibility to diseases
- low tolerance to stresses of drought or temperature
- crop failures resulting in famines (potatoes, anyone?)
- reduced soil fertility
- increased soil erosion
- reduced resistance to insects
- the permanent loss of genetic variety in the crop species
- increased habitat for “pest” species
- reduced habitat for other species

The way we raise chicken, turkeys, pigs and cattle, is a kind of near-monoculture. We use basically one breed, all but cloned for maximum food production and turned into factory products.

Animals raised in monoculture are so highly susceptible to disease that we routinely dose them with antibiotics.

Oops! We just discovered that bacteria and insects evolve much faster than we ever dreamed, and this use of antibiotics has quickly created many resistant organisms that endanger our own health, not just that of our meat.

Recently, as you know, scientists cloned a sheep named Dolly.

Cloning of food animals, if it becomes widespread, will eventually lead to a true monoculture, for only the best milk-producing cows will be cloned, perhaps thousands of times over, and only the best ham-producing pigs will be cloned, and only the best steak-producing cattle will be cloned.

The result will be very odd. We may all end up eating the same animal, over and over.

The species of animal will lose genetic diversity, and the clones will be increasingly vulnerable to disease and defects, because of a process called genetic drift.

Wearing Green-Colored Glasses: More Really Is More

All of our experiential intuitions of both the mechanical and social worlds tell us that More is Less. They tell us that complexity equals complication which is a bad thing. But in Nature, in the actual workings of life on earth, **More Really is More.**

To repeat: **In any living community, the more different kinds of animals and plants there are, the stronger that community will be.**

There was an older knowledge and model of reality that the machine glasses replaced. Our re-discovered awareness of ecology marks a return to our ancient understanding of nature, a knowledge we held for many thousands of years. For that time, we saw the world through Green-colored glasses.

That is, we saw the world and its workings through a perceptual set and knowledge that we acquired as we evolved into human beings, as we became ourselves. These green glasses we are beginning to wear again show us Earth's ecosystems as they really are: the flourishing of diversity is strength; the

flourishing of diversity is resilience; the flourishing of diversity is health.

Complexity is related to success more than breakdown. We are beginning to know again that:

- All species in a community are essentially symbiotic or mutual.
- Everything is connected to everything else, and everything is interdependent.
- in a natural community, all members benefit and all members suffer interdependently. Each has its role.
- Cooperation is a force in nature as powerful as competition. A diversity of organisms is a living example of synergy.
- Green-colored glasses look at complexity and see blessing and strength.

The Yearning for Community

There are some hopeful social signs. All around us right now we hear a general yearning for community.

More and more we reflect a dissatisfaction with competitive, hierarchical models, and a desire to find ways to return to an older, more traditional, more cooperative way of getting things done.

I suspect that the frequency of this dissatisfaction also reflects something we have learned: that the self-sufficient, self-actualizing self-absorbed personal ideal of the twentieth century was no more than the 1840 Mountain-Man syndrome dressed up in psychobabble.

We are not alone. We can't be alone.

We now seem to be learning, again:

- That leadership can be mutual, and not necessarily hierarchical.
- That when we collaborate, the patterns we return to mirror the patterns in an ecology: the cooperation of mutual long-term benefit.

Old human patterns of getting things done—patterns we currently call collaborative and communal—are not only ancient but a far more accurate reflection of nature as it exists, than that barren 19th century “Survival of the Fittest” Jungle that really isn't out there.

For hundreds of thousands of years, Nature was the mirror we held up to the human face, to discover what we are. Then we replaced Nature with our own face, and Narcissus became enthralled with his own image. And he fell so in love with himself that he forgot how to see Nature.

Summary

The Principle of Biodiversity:

In any living community, the more different kinds of animals and plants there are, the stronger and more resilient that community will be.

But we don't get it. We don't get it because:

- we believe it's a jungle out there, but that we're not really part of it.
- we see through machine-colored glasses

In fact, we are parts of Nature. In fact, it's an ecology out there, not a jungle.

Ecosystems have as much cooperation in them as competition.

In the machine world, More is always Less, which makes it hard for us to grasp Biodiversity.

In the agricultural world of monoculture, More is Less, which also makes it hard for us to grasp Biodiversity.

In the Green world, More Really is More, which is Biodiversity

There are hopeful signs that people's minds are beginning to change, and are beginning to put on Green-colored glasses.

Some Sources for Biodiversity and Why We Don't Get It

Ehrlich, Paul R and Anne H. Ehrlich, *Healing the Planet*

Gould, Stephen, *The Flamingo's Smile*

Paddock, Joe et al, *Soil and Survival*

Wilson, E. O. *The Diversity of Life*

[top of page](#)

[return to Yearning to be Round Contents](#)