The natural chaos of our universe

Contributed by Jan Lundberg
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Culture Change Letter #120
What
do dreams, petrocollapse and the weather have in common?
They are chaotic and yet have their own complex order, ineffable and
embraceable if we don't try to control them and over-analyze. They must be accepted as beyond the power of the ego and institutions, although sorry attempts have been made to manipulate them. The
unprecedented crisis the world finds itself in, on so many levels, is a
result of the failure to see that all is one, and that we cannot
isolate any thing or event for our personal gain while pretending that
it’s not all connected.
Rather than a new
exploration of chaos theory which is a mathematics and physics
discipline, the idea here is to honor the intrinsic chaos in our
existence and in things we mistakenly believe are simple or linear and
predictable. It is a fatal flaw of our culture: modern people expect or
strive toward specific, measured or general control, with imagined and often unreasonable expectations. For example, in constantly trying to overproduce crops
without allowing for a little of nature's chaos (e.g., interaction of
unknown bacteria, and rotting biomass), and if there's too much
limiting of species
and crop varieties, the ultimate result is sudden shortfall of food.

Similarly, to limit the gene pool in a
clan weakens the population instead of gaining strength from allowing a
stranger to walk in -- with his or her opposing beliefs, odd ways and appearance -- and provide genetic diversity whether by
marriage or taboo sex.

Although "advanced" societies are exalted and called
complex, they have done well at assuring their demise (as in Jared Diamond's book
Collapse) by being simplistically goal-oriented and expansionist.

Economic
growth and Western Civilization are wondrous and have been
unprecedented, but they are divorced from nature and reality; they are
about to enter inevitable, aggravated chaos. This chaos will have
clear reasons and not so clear outcomes, although we can glimpse them
if we free our minds from many of the dominant culture's cherished
beliefs. The answers are not in a mathematical analysis of all
the data we can amass, in search of limited order. [An academic description of chaos theory is
at the end of this essay. -
editor]

In "Doom and gloom? Your perception calls
the tune" Culture Change (Letter #74) looked at our individual and
cultural ability to shape events, in keeping with physics' dazzling
findings on the role of the observer. However, that essay did not
address the ongoing dance of the cosmos that we participate in, in
terms of letting chaos and harmony work their way as freely as possible
for as long as our journey endures. Turns out this is not just
some spiritualist's dream, but the way things must work for a
sustainable future.

Modern humanity's

behavior has been marked by the constant attempt to "order the universe." Date this back to the abandonment of hunting and gathering in favor of harder work to support surpluses for the elite. If ordering the universe is the wrong approach, then we should be promoting chaos -- this is another way of saying that we should work with nature instead of against her.

Chaos, however, is considered a bad thing: "chaotic behavior" and "descending into chaos" are to be avoided at all cost. Too bad that chaos is actually a law of the universe! Another concept that has been given a bad name and associated with chaos in a negative way is anarchy. Anarchy means "without rulers," but is demonized (especially by rulers) in describing any public violence or "confusion." Tell that to any peaceful anarchists maintaining successful collectives based on solidarity, self-reliance and mutual aid. When one thinks of our time as a species without and then with government, it is that much longer time without it when there were no major wars or other great "mistakes," nor were there conditions such as today's gross inequality perpetuated for greed.

So it seems we must figure out what we want in accordance with what's possible to sustain ourselves as one people sharing the Earth will all life. We have been finding, with the negative consequences of abusing nature, that we need to adhere to what nature wants. Nature doesn't really "want" more Katrinas, but that's our future because we had to try to direct chaos for selfish gain. People who want to generate profits and cut themselves off from nature with technology and possessions are the interests who fight what nature normally gives us.

Nature wants its own chaos, while "well ordered" equally describes our natural world. Its complexity as a living system is not simplistic enough for linear thinkers and planners. But physicists have found that chaos is intrinsic to everything as an unseen, underlying order that can never be explained except to allow for the essential mystery of molecular interplay, whether in an amoeba or a star.

In our wise subconscious chaos reigns

In our lives, the sharp contrast is between (1) the ordered approach to living and thinking, and (2) the subconscious.

Those of us in the “rat race” know well what the ordered approach is about: follow orders. We imagine, however, that we have more autonomy and mobility than we really have: our culture has trained us to revere the benefits of technological progress and economic growth. So, we figure that any constraints on our freedom (if we noticed) are a fair trade-off, even when we drive species extinct without understanding their connection to us and everything else.

The
way we have defined and built our world prevents us from imagining or attempting
a way of life that is not regimented, bureaucratic, and
anti-nature. So, in our mentally ordered state that is expected
to last 24 hours a day, a larger power -- be it nature's chaos, or
love, or pursuing art -- is denied. This is the same as cutting
spirituality out of our lives. And the structures and objects we have physically built literally box us in, causing health problems as well.

The
scientific establishment and its main beneficiaries – industry and
government – assume they know everything, or they act as if they
do. But looking at the disaster caused by nations and ruthless
commerce, it is obvious they don’t know what is best to do. It's
more and more obvious that they don't care. Wars over resources
such as in Iraq, and global warming that gives us super-charged
hurricanes, teach us that our rulers are mistaken at best.

It's
not as if "the wrong people are in charge," when in reality we need to
take responsibility individually so as to not be followers.
Everyone has a unique intelligence and set of talents to offer for the
common good, but today the drone and mercenary are most commonly
rewarded. Entrepreneurs are rewarded, but they tend to suck
others' limited energy and wealth. Somehow a dominant culture of
exploitation has taken over almost the whole world during the last ten
millennia, even though this clearly meant that people had to do more
work and submit to more danger and suffering. Tribal, nomadic or
hunter-gatherer cultures fared well for countless more millennia as
they flourished in tremendous diversity.

It
is the non-dominant cultures, mostly residing in the past and the dust,
that worked with nature as an uncontrolled, chaotic force that over
time offered reliability and security. These cultures have been
conquered, destroyed, ridiculed, abandoned, and yet vindicated.
After all, our days may be numbered. Or maybe you believe that
the palm pilot and fruit shipped from other continents are but a couple
of signs of our unending genius and infallibility.

Today's
fashionable buzzword of "sustainability" actually addresses the
suppressed alternative of the more spiritual, nature-based,
non-repressed way of life. Unfortunately, most commentators on
sustainability want the impossible: a continuation of the consumer
economy and our social structures, albeit reformed to be kinder and
gentler. At any symposium on sustainability, it is rare for the
traditional native American tribes to be referenced as a model.
Today’s adherents of sustainability need to be examined for their
realism and sincerity as well as their funding sources, to see if they
are fighting nature or would work with her.

Dream time

In
dreams we experience an appalling lack of order. They are

unpredictable, sometimes shocking, and provide experiences ranging from love, pleasure, sadness or fear. Some ancient cultures held the dream world to be every bit as real and significant as the waking world. For our purposes herein, we can just view for the moment our dreams as a book or movie about our subconscious, real feelings and their possibilities: chaos, but with the precise depth to make us identify intensely with the people and situations we experience in the dreams.

When we sleep, our bodies and minds are vulnerable and unordered by our modern society. What we can learn from this is to contrast dreaming with the ongoing attempt to suppress anything unplanned or non-utilitarian. When we see the contrast, we see that there is another force than U.S. policy, for example, or what we were taught in school.

We may not all agree that there is wisdom in acknowledging and embracing nature as chaos. But at least we can realize there is more to the world than our trained perception. This opens up the possibility of questioning certain foundations of Western Civilization such as totalitarian agriculture, division of labor, social stratification for the benefit of hierarchies, and imperialism.

Nature as chaos, underneath and surrounding our controlled exteriors, lies in wait as the short lived highways and dams run their brief course. Yet, nature as chaos is everything else too, including most music.

Music out of chaos

Music can be a controlled process, and therefore limited. Or, it is full of surprises that somehow follow a design. Creation out of chaos is what happens, and that process is also where we came from as living beings. There is no end to a "piece of music" necessarily, although we can call some music or poetry complete. (We may limit these creations to what can get onto electronic media or one side of a piece of paper.) Harmonic vibrations and new directions for a "piece of music" are what pop into the mind or jump off a keyboard or fretboard. If we didn't have to wake up or go to work they could go on forever.

Although it is said there is nothing new under the sun, new music is as irresistible a force as the unavoidable uniqueness of every new face born. A child can make up a song with his or her own words spontaneously because this impulse has not yet been sealed off and restricted for specialists.

A musical composition may usually be in a certain key, maintaining harmonic and mathematical relationships, and provide what’s called a resolution or handy

ending. But in a dream state, the same piece of music is that and more: suddenly the mere beginning of a long, out of control "work" – a chain that can go anywhere, including "lyrics, acting and costumes" and even side-shows. The possible combinations and permutations of notes, beats and tempos – with various instruments and voices – are infinite.

When I was very young I worried that "they" would suddenly run out of songs. I loved my favorite tunes and tried to possess them with a purchase or latching onto a favorite radio hit. Possibly because of my obsession with songs, music grabbed control of much of my life starting at the age of 22, especially while sleeping or opening up to my subconscious. The never-ending chaos of my musical dreaming is my own just punishment. Even though the music can be pleasant, original and intensely powerful to me, I often experience it as a nuisance because I don’t just let it go. I view it as if a commodity as I try to stop and remember it and capture it. Instead of a tidy package, the music does not know to quit unless I limit it in accordance with the ordered, artificial world we have erected. What’s desirable is when I get at most three dreams in one night or morning, and fortunately they are almost always in the same key. Getting back to sleep after having to wake up and use the muse is often a problem. But my visions and sounds fill me with meaning and accomplishment, particularly if I can mimic them with my guitar and additional words and music to complete the dreams into a performable song.

Oddly, lyrics from dreams can make more sense in terms of unity than lyrics made up from a conscious state. For example, the mood in a dream about loving someone will retain the feeling with the words, but when composing lines when awake it is possible to err by inadvertently altering a mood or shuffling the position of characters, and this confuses or loses the whole message of the song. So, what has a better natural order, our chaotic subconscious or our ego-engaged intellects?

Conclusion

My musical chaos has shown me that the order of the universe is beyond our ability to constrain it. So it’s best to just let it all flow and enjoy it. If we insist on building on flood plains, create tall buildings, engineering life forms, nature eventually will remind us what makes sense, through an historic earthquake or 100-year flood. Not to mention boring formula-songs.

In a time of unprecedented mushrooming of human population, we have overloaded our boat such that the water surrounds us right up to the top of the gunwales. Further social control is not a long-term solution all by itself. Acknowledging the universe's chaos and following natural possibilities for living sustainably are essential to our survival and freedom.

Leaving the Garden of Eden is still going on today. The idea of losing a beautiful,

nurturing haven is the same concept as destroying nature that we all depend on. Eating the forbidden fruit from the tree of knowledge can easily refer to the wrongful emphasis on information and technology rather than trusting nature and leading simple lives.

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Chaos (from a Princeton University online dictionary):
n
1: a state of extreme confusion and disorder [syn: pandemonium, bedlam, topsy-turvydom, topsy-turvyness] 2: the formless and disordered state of matter before the creation of the cosmos 3: (Greek mythology) the most ancient of gods; the personification of the infinity of space preceding creation of the universe [syn: Chaos] 4: (physics) a dynamical system that is extremely sensitive to its initial conditions.

Chaos theory

The flapping of a single butterfly's wing today produces a tiny change in the state of the atmosphere. Over a period of time, what the atmosphere actually does diverges from what it would have done. So, in a month's time, a tornado that would have devastated the Indonesian coast doesn't happen. Or maybe one that wasn't going to happen, does. (Ian Stewart)

Do you demand more order in your chaos philosophy? Try chaordism:

From http://en.wikipedia.org/wiki/Chaordic: "The portmanteau chaordic is used in some philosophies to refer to a system that is simultaneously chaotic and ordered. The term was coined by Dee Hock. The combination of chaos and order is typically described as a harmonious coexistence displaying characteristics of both, with neither chaotic nor ordered behavior dominating. Some people hold that nature is largely organized in such a manner; in particular, living organisms and the evolutionary process by which they arose are often described by adherents to such a philosophy as chaordic in nature."

According to Greg Rae's website, patterns from chaos emerge in mathematicians' research, so chaos theory is really about finding the underlying order in apparently random data. He says “chaos was first discovered” when the first true experimenter in chaos, a meteorologist, named Edward Lorenz, made discoveries in 1960 onward.
But another origin is found in Wikipedia, the free online encyclopedia:

...the roots of chaos theory date back to about 1900, in the studies of Henri Poincaré on the problem of the motion of three objects in mutual gravitational attraction, the so-called three-body problem.
Poincaré found that there can be orbits which are nonperiodic, and yet not forever increasing nor approaching a fixed point.

In mathematics and physics, chaos theory deals with the behavior of

certain nonlinear dynamic systems that under certain conditions exhibit a phenomenon known as chaos, which is characterised by a sensitivity to initial conditions (see butterfly effect). As a result of this sensitivity, the behavior of systems that exhibit chaos appears to be random, even though the model of the system is deterministic in the sense that it is well defined and contains no random parameters. Examples of such systems include the atmosphere, the solar system, plate tectonics, turbulent fluids, economies, and population growth.

Systems
that exhibit mathematical chaos are deterministic and thus orderly in some sense; this technical use of the word chaos is at odds with common parlance, which suggests complete disorder.

Last word

The
last statement above is where lay people are wrong: complete disorder (other than limited instances such as a train wreck) actually has a pattern and "purpose." But where scientists are wrong is to try to find the mathematical predictability of a system too huge and complex to fully view or anticipate, whether it’s the universe or anyone’s mind. The direction of a song is by no means predictable when the subconscious is allowed to be on the loose. The pattern of the music may not fit into a computer, as was done with some Bach music to simulate more variations. He is considered to be one of the more mathematical composers. - JL

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Announcements:

In Los Angeles - PEAK OIL: REALITIES & SOLUTIONS of the Looming Petroleum Shortage -- an evening with Jan Lundberg, Ed Begley Jr., Paul Koretz

Sat. Jan 28, 6:30 pm at Valley Cities Jewish Community Center

Suggested donation: $5.

13614 Burbank Blvd. (betw. Fulton & Coldwater), Sherman Oaks

"The Power of Community; How Cuba Survived Peak Oil" will be screened.

Further info: telephone 1-818-906-7757 or email neighborsteve2002@yahoo.com

Peak oil discussion broadcast: Jan Lumdberg was interviewed from Boulder, Colorado on community radio with Ron Swenson, solar power proponent, and Reg Greenslade, an oil industry exploration executive.

The show can be heard around the world on KGNU.org at the website's archive. It took place January 5, 2005.

Campaign Against the Plastic Plague invites the public to its
Kick the Bag Habit Workshop

on Saturday, January 21st, 2006, 9:00 am – 3:00 pm at the Oasis Senior Center, Corona Del Mar, CA 92625

Telephone 1-(949) 645-5163 or email Lindsey.payne@earthresource.org

Further reading:

Culture Change e-Letter #74

http://www.culturechange.org/e-letter-doomgloom.html

Doom and gloom? Your perception calls the tune - Interconnectedness of all in the universe
Jan Lundberg's music from dreams:
http://culturechange.org/depavers.html

http://www.imho.com/grae/chaos/chaos.html

http://en.wikipedia.org/wiki/Chaos_theory

Author James Gleick, Chaos - Making a New Science

Author Ian Stewart, Does God Play Dice? The Mathematics of Chaos, pg. 141

Truthout.org syndicated Jan Lundberg's article, "Reflections on my Amtrak peak oil tour" at

http://www.truthout.org/issues_05/122905EA.shtml