

Tao of Ecology: Towards Perfect Ecosystem Management;; rev3.95 DRAFT

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This document is in process and need of being re-written to balance male and female voicing.

This document is for creating Eden 2.0 and respects both the GAIA and the YHVH views of the Earth -- two sides of the same unity. Given this, it is written with the idea of Earth naturally returning to a temperate climate, without winters or summers. It is intended that an autumnal season will occur or some cycle with some species of tree (such as Elm) will shed their foliage, for collection of composting needs.

Permaculture* (or, more pedantically, *ecological architecture*) is the science and practice of creating living systems of nature (hence, *permanent agriculture*). *Permatech* (or *ecological engineering*) are the techniques employed in order to achieve it. The knowledge given here will create subjects for these emerging fields about how to build endless value, with humans managing the Earth. Whether you believe it or not, this document represents a 20,000-year plan for Earth and is brought about through prophecy. *For present remediation issues, see the second half of this document.*

In contrast to traditional agriculture, permaculture is characterized by these traits:

- **low [or self-]maintenance**: working *with* nature rather than against it,
- **independence-building**: complete for supporting all human and animal needs,
- **all-natural**: no artificial pesticides or fertilizers, and
- **zero-waste**¹: forming closed-loop, complete cycles of use, *re-use*, or composting.

The end result of permaculture is **abundance** and **health**. Done right, there is more than enough food and habitat for people and animals. There are no seasons when all the forces of life are in balance. Snow goes up into the mountains and water flows throughout the lowlands. The abundance of permaculture comes from the principle that *life creates more life*; i.e., one doesn't need to work at it, nor do things need to die. One only needs to pay attention and care for each other. The basic idea is to think of permaculture as a terrarium that you live in. For this, **male** aspects of the system have to be in balance with the **female** aspects, and vice versa.

Overall, there are 8 primary poles balanced on 4 axes:

- **Dominion (stewardship & refinement) + Raw materials (soil nutrients and the elements) = Growth**
- **Diversity + Interconnectedness** to create **Resilience**².
- **Male** and **Female** and **Yin** and **Yang** (Decomposition and Rebirth).
- Balance and connection with all four primary elements: **Air** (Wind), **Liquid** (Water), **Matter** (Earth), and **Fire** (Sun). These are the forces which create Life.

The Alchemical system creates the flora and fauna within the **Tree of Life**, while Resilience is its immune system: diversity provides solutions to the unexpected, while interconnectedness provides these solutions *quickly* before problems escalate. Decomposition and rebirth generally rely on two more "elements" outside the system of alchemy: mycelia and bacteria. This is because until perfection is restored, other processes come in to balance things. This is also the reason for insects, otherwise they have no ecological reason to be there.

Having any three of these four systems in balance will moderate seasons and temperature extremes. Despite any claims otherwise, these are not necessary, ecologically. Snow can stay in mountains all year, providing continuous water-flow for rivers throughout the year.

There are four kinds of invasiveness to watch for: weeds, carnivores, vines, and humans. None of these are necessarily problems, but they show where the power is in the ecosystem. They present new challenges. The former two are simply about managing new **diversity**, but the latter two can be real trouble. Three of them can transform into symbiotic partners (weeds transform into herbs as Male and Female hold dominion, some vines like raspberry and blackberry also transform), but most vines are invasive. Cacti indicate the presence of spirit medicine for the Eden 2.0 cycle. Work with Native Americans for these or plant trees to the four corners to bring rain (see below).

STUB: Reptilians give massive knowledge about your relation to the Father side of YHVH in how they

(the reptiles) relate to you, so are imminently useful in understanding the dynamics that are governing over your habitat. The use of the word "GOD" is used in an omnigendered form. The name YHVH is balanced with two vowels (yin or dynamic) and two consonants (yang or static forms), and arises before the appearance of gender. It may be more advantageous to put faith in GAIA 6 days/wk and YHVH 1 day/wk (something like that). Don't do as the Christians and assume omnipotence. It takes Wo/Man, too. Gender arises with the rise of humans, as they are the *only* ones who can hold dominion over the Earth -- no other species is able to do this. **There's no way to avoid the issue** with regard to perfect ecosystems and the care of everything therein. Consciousness is the only explanation to homeostasis and regulation of Earth. It should not be considered in relation to the Christian Church but symbolic of "all that is", by definition; absent, perhaps the male and female.

Storm

Insects give it in relation to the Tree of Life and give you imminent knowledge about dynamics governing *within* your habitat. *Ignore neither*. These are the gauges (as in a car) of your ecosystem. Keep in mind that the presence of legged reptiles already means your domain (nation probably) is **out-of-balance**.

If you see the former (reptiles), you must examine what you are doing and why it is showing itself. Note what kind of serpent it is (snake, salamander/toad, lizard, turtle). If it is a lizard, your belief system is out of harmony with the Divine. If it is a snake, it is something you are doing, about to do, or something that the property/object owner is doing where GOD wants you to question it. If it is a turtle, is it a sign of too much use of industry (chemicals, machinery, nuclear?) or too much lackadaisical efforts (without higher wisdom) and if it's a salamander/toad, it means you've gone too far without paying your respects to GOD. And then notice how it relates to you. If it is running away from you, it may be innocent -- look more closely. If it looks at you, and continues, then it's disinterested. Otherwise it means, there is a challenge. If it simply notices you and moves on, it says something else (XXX must complete this). If it is a frog, you've moved entirely away from Creation and towards an alien universe of the all-seeing-eye -- you're probably building swamps, not lakes or wetlands..

Insects present a different sign. One of the elements is out of balance. If they're flying around, then too much air element, for example. Sometimes it just means that you need to expand your area of dominion. Under perfect dominion, there is no death, no decomposing matter. Insects are present in some form as long as there is imperfect dominion and a question within the Tree of Life.

If insects are Iridescent, it means YHVH/GAIA is putting the pressure on you to understand, so assume higher intensity meanings to the ones in Table 1. You must also note the difference between insects that are irritating humans, attracted to physical objects, or merely found by bothering hiding places. If an object, note specifically the object if you can correlate where exactly they attack. Examples: cars, farm houses, misogynists, etc. The Tree of Life is generally very specific, it only lacks the ability to speak. If a person, note their belief system. If disturbing objects, it is merely showing you what is out of balance. It could mean that, for example, if you moved a piece of wood, that the trees need more dominion, or if a rock, that the Earth itself needs more attention. In cases where there is no intensity to the interaction, it may be as simple as the insect copying *you*. See Table 1 on the back page.

Consider three main groupings of fauna with which to be concerned: birds, mammals, and fish (air, land, sea). For flora, preserve distinction between trees, flowers, grasses. Bushes are an in-between variety that haven't stabilized into a perfect form. The distinction between grasses (or weeds) and trees is the presence of foliating "bark" on the former. Between trees and bushes is the presence of a singular trunk. Hopefully the others are self-evident.

The simplest metric for evaluating the performance of your ecosystem is the amount of green. Green is the "currency" of the ecosystem: the more green, generally, the more **wealth**. Balancing this divine order with human order, like signage, eco-observation and measurement (see indicators below), planned camping areas, benches, steps, etc., creates even *more* wealth. Many beautiful colors are icing on the cake. Making "green" is a complex, dynamic process involving all four alchemical corners, and that wealth means nothing if it isn't used (it **is** called an *ecology*), so read on.

The following are the monetary equivalents of various ecosystem "organs" are in Table 2 (STUB:

needs reworked):

Eco-organ	Base units	Minimum \$ value/yr	Min in eco-value terms
Tree	1000 leafs/tree	\$0.013-\$0.05/hr per leaf	\$100 per tree per yr?
River	20ft ³ /s	\$2/ft ³ per second (pure, mountain H ₂ O)	\$2K/min per river
Lake	ft ²	\$200/sq yard	
Wetland (non-salt)	1ft ³ /min (flow)	\$0.5-\$1/hr/ft ²	\$1/hr per sq ft.
Rock	1 lbs/ft ³ (density)	100 ^{moh-hardness} ¢/dm ³	
Breeze	500lbs/mi ³ (wind)	\$1/mph/ (to canopy and up to 15mph) per?	
Sun light	100-1000W/m ² (flux)	\$1/m ² (per 10sec?)	\$2.5M/mi ²
Earth Soil		\$0.05/cm ³	
Land	\$0.10/yd ² /yr		

TABLE 2

(The quantification of ecosystem growth moved to comment)

Specific indications and concrete steps for success follow below. To quantify, add all of the positive indicators and subtract any negative indicators. Use a consistent square area to check. Note any insects or interesting reptilian signs, if you're producing a report (see last page). Also, this outline follows the Rule of Four -- there are four primary orderings, plus an additional one (humans) that will hone these four:

I. Diversity:

- A. **Land:** varied terrain (trees/grassland), hills, rock outcroppings, mountains, connected lakes; maximization of furry mammalian species. *Positive Indicators:* deer, foxen, rabbits(?), hamsters. Grass. Wetlands with flowing water (anything less than 1ft³/s should be a concern). *Negative indicators:* dry, cracked ground (water-sun domination), fleas and ticks, desertification, above-ground fungi, jungle palms, dense mats of moss (indicates science dominion, try better drainage). *Prescriptions:* rolling hills for diverse landscapes providing variations of water flow and protective areas for wildlife. Nut trees: oak/hazelnut trees, chestnuts, walnuts, macadamia, almonds, brazil nuts. Move positive forest fauna to jungle biomes and positive jungle flora to forests. Connected lakes (connected to flowing rivers, streams, or canals) have 100x the ecological and socio-economic value as disconnected ones as they're a source of healthy sustenance for families. *Counter-prescriptions:* Nuclear power, non-precious metals.
- B. **Water:** lakes, rivers, wetlands, plentiful fish numbers. *Positive Indicators:* for fresh water: silvery-scaled fish, small fish active in large schools, vibrantly-colorful fish; diverse, colorful reefs in saltwater, colorful birds. Water depths have a bottom surface visible (to 50', as an informal standard). *Negative indicators:* Beetles. Stagnant or murky water (bogs, swamps, etc.) -- need at least 1/8 ft³/sec flow for reeds and other ground (non tree) plants to filter water. Salt in the water, except to allow for coral growth. Snow or ice in the lowlands (below 5000' means you've followed science too religiously again). Fish without scales, or dark, black spots (Catfish, carp) -- these are signs of deep disease in your aquatic ecosystem, likely fish asphyxiation (poor water circulation, fouled water). Moss or jungle species like ferns (only indicates transitional system). Underwater plants that don't breach the surface. *Prescriptions:* greater water depths⁷ for diverse water ecology interactions (a single, deep column to a lower water table would achieve significant results) OR using mechanical drainage techniques to move water downhill (micro canals), mollusks (to counteract fecal coliform), turtles (to counteract crustaceans), and reeds for filtering and oxygenation at water's edge, rocky (or sand) water-ways to increase aeration and potential for

catching solids. Whitish sand for muddy bottoms (if toads/frogs are present in wetland areas, generally competing with fish #). Note any peat or oily residues. Disturbing the water surface with aeration or other techniques will cut down parasitic plants under the water. *Counter-prescription*: effluent from cattle farming operations, industrial waste, underwater plants. .

- C. **Air**: cumulus clouds and clear skies over land generally, cirrus or no clouds over mountain ranges; abundant avian happiness: *Positive Indicators*: birdsong¹, hummingbirds. Large trees. *Negative indicator*: black birds, flying insects, ferns, dead branches (lack of holding dominion), lack of variation in sky (cloudy or always clear), jungle overgrowth. *Prescriptions*: plant deciduous trees for O₃ generation (made after rain/sun cycles) and water sequestration, aquaponic solutions adds oxygen by the evaporation from surface breezes or air interaction (important for mammals), add some elves, or introduce some vegetarian fauna (deer, rabbits, hamsters).
Counter-prescription: fumes from combustion
- D. **Sun**: Deep-green (photosynthesizing) vegetation covering every aerial square foot of soil (except footpaths made by human effort). *Positive Indicators*: wildflowers, tall trees. *Negative indicator*: Biting insects, gray or gloomy skies, cosmetic landscapes to counteract the failure of other parts of the surroundings, pine trees exuding sap (female imbalance--conifers are transitional until the rise of Eden 2.0 where they transform into deciduous). Cacti. *Prescriptions*: go "off the grid" and use solar energy to use and balance Man's efforts rather than Earth's. Create solar banks made of mud with soot or black rock to absorb heat during the day. *Counter-prescription*: ingestion of cactus-based psychotropics.
- E. **Humans**: Children with beaming smiles. Active, engaged adults that are outdoors as much as indoors. *Negative indicators*: items (processed wood, computers/phones, furniture) brought in with old-money dollars. Prescription: find spots for camping. Implement signalling systems using twine or existing wire, intentional community spaces with written and posted (known by everyone) constitutions, community currencies that trade with the conventional systems for any new equipment needs; hydroelectric from running rivers should be offset with lakes at the rate of 1/2acre:1kwh (24kwh/day), wind generators should be limited to approximate 80KW within 1mi radius or 1KW within 1000ft radius (or more). These are approximate minimums. Contact me if you have better figures. Prescription: pedestrians and cyclists (developed areas).
Positive Indicators: children

II. Interconnectedness:

- A. **Good soil**. Ideal: black and moist with fecund aroma. *Positive Indicators*: presence of fuzzy gray mycelia networks interconnecting underground root systems where leaf deterioration occurs, leafy greens and herbs (inland), nut trees. *Negative indicator*: malodorous soil, weeds. *Prescriptions*: hillside grasses for erosion prevention and trapping water; manure for transformation of sandy soils (add water to soak into sand); weeds are transformed into herbs as male and female accept this new input.
- B. **Flowing water**. Ideal: connected cycles from snowmelt, springs, and rainwater to rivers and sea, back to higher elevation. *Positive Indicators*: glaciers, water clarity, fruit trees, green grasses at river-side; sea water: bright, colorful fish feeding at water inlets. *Negative indicator*: wet, boggy soil (indicating excess yin), non-potable water, trees that don't grow straight upwards, leafless branches (excessive yin: boggy wet soil conditions). Salt water. Salt should be integrated into coral reefs. *Prescriptions*: acequias to route excess water to dryland (adding Man's effort is the key for wet soil conditions), ensure waterways maintain surface/electrical continuity with each other rather than get disconnected. This is where you'll have to work with the Creator.
- C. **Fresh air**. Ideal: complete and long cycles of rain->O₃-> (breeziness/mammalian absorption)->CO₂->(vegetation->moisture-expiration->cloudformation). Lack of winter season. *Positive Indicators*: Strong trees. Presence of mammals. *Negative indicators*: mix-colored soil, ivy. Dark soot-like residue on leaves. Large expanses of open sky exposing too much of buildings, powerlines, busy streets, etc. *Prescriptions*: more trees to mulch and transform the soil, large-acreage forests with interconnected canopies, expansive grasslands where moisture levels are sufficient. Aquaponics: Flowing water creates O₂ when crossed with a breeze. *Counter-prescription*: large wind farms that extract energy from the air, reducing cloud formation and rain

- (sustainable energy extraction set at $1\text{Kw}/0.19\text{mi}^2$ (or 1000ft squared or $5\text{Kw}/\text{mi}^2$). You can scale this by stacking wind generation (two turbines on each tower = $2 \times 5\text{Kw}/\text{mi}^2$).
- D. **Healthy sunlight.** Ideal: tropical zones. *Indicators:* expansive, active forests, mild summers/winters, people interacting with the ecosystem. *Negative indicators:* Land reptiles, more heat than sunlight. Also, never let planetary energy consumption run to even *half* of the amount that falls onto the planet from the sun (this is called “solar parity”). *Prescriptions:* For countering reddish, hot suns, conifers (pine, redwoods) tend to offset this, yet one can’t generally plant them without being invasive, so you’ll have to work with transcendental forces; for cool, blue sunlight plant deciduous, white-bark (aspen, eucalyptus) trees. These will get maximum value from sunlight; wind generation rather than supporting large, coal-burning powerstations.
- E. **Humans:** *Positive Indicators:* man-made structures available to everyone: playgrounds, schools, covered work and eating areas, picnic tables, camping areas. Sigils and markers that guide the way across hundreds or thousands of miles of land. *Negative indicators:* fenced areas, areas requiring fuel use beyond that which is harvested manually (biogas, fats or alcohols, wood); *Prescriptions:* plant ahead for human use, remove fences and create community, Implement *Novus Ordo Seclorum* Constitution available from author or see Global Village Construction Kit at appropedia.org. Trails to connect interesting areas (outlooks, rivers areas where bathing available or crossing). Make trails with two flags on opposite sides of desired trail, spaced every 15 ft or whatever is visible to guide traffic.

The foregoing is meant to be a fairly comprehensive and complete list, applicable to all areas of the Earth *below* the moss/timberline and all non-volcanic regions (with which one shouldn’t interfere). Ultimately, it is meant for a post-expansion society with a minimum of cars and industry (see [America 2.0](#)).

Now, with regard to remediation. Perhaps this should have been the first thing in this document, but the first and best lessons here are: **reduce, reuse, recycle, repair** -- in that order. Beyond that, it’s **(bio)remediation** -- finding ways where earth can transform waste into *new* value. Remember the five R’s.

Almost everyone in America is consuming twice the sustainable amount and it’s making them fat and diseased. Obviously, if you reduce the consumptive lifestyle, there will be less waste to remediate also. General rule: **Consume only what you’d keep on your own property boundaries.** (A city, state, or nation should consume only what it would keep within its own borders, also.) Also, for wells, don’t use more water per year than falls naturally per year. Don’t draw more power out of the air, than for personal use. 20Gw pulled out of the air is going to have noticeable effects on water fall and flora.

The next point regarding remediation is that there are two primary design goals: removing negative aspects of the waste, and ideally, transforming it into *positive* value for **re-uptake** back into nature or economic use. Holistically speaking, negative properties of waste come from two sources: pain in the soul or loss of divine order. For the former, the pain has to be transformed into love or beauty to remediate. For the latter, the nagual side of YHVHpi has to remediate it, usually this requires removing your own ability to observe.

It takes at least two steps of interaction before something can be deemed **safe** for human use. (Cadmium -> Earth (via powderization) -> Flowers (re-uptake) -> Humans (for food or enjoyment OR Animal waste -> fermented by-product-> roots-> food. Last-stage water waste -> Earth/Air (textured concrete) -> slime on concrete -> Sunlight -> bakes it off rendering it hardless -> Earth. **Generally, there is zero tolerance for pollution of water systems** and it’s unnecessary (see sections below instead).

Aim for **re-uptake.** Grasses, wildflowers, tree arbors are good partners, acting at *multi-day, multi-month, and multi-year* time scales, respectively, with their root systems acting like little nano-machines. The more “pure” the waste, generally the faster it will be re-used by nature (“pure” here means minimizing evidence of human intervention: fermented waste vs. raw sewage, powdered metal vs. a metal plate, pure elemental forms over mixed compounds not found in nature, for example). Work with a horticulturalist and perform an experiment: make two testbeds, mix the waste into one of them. Plant diverse grass species and wildflower seeds. *Find and document good*

*species pairings and you'll be **the champion!***

Finally, as an incentive for making a self-maintaining waste-management system, rather than hiring civic waste managers, let them earn and keep whatever value they can generate⁶ off of waste material (not an insignificant incentive). Since the techniques below use chemistry more than alchemy, they are more properly called **terraforming**. Onto specifics:

- **Human (urine/fecal) waste:**

- The main issue with solid waste is the moisture. If you can dry out the waste completely, it becomes benign, essentially returning to the dirt from which the food was made (however foul-tasting). The body has already processed the (otherwise rotting) food into an easier form for the earth. The problem with liquid waste is the high-nitrogen. Mix this with carbonaceous, high surface-area, non-soil biomatter enough to soak up the moisture and place in a containment system where pressure can build and transform the nitrogen into fecund matter ready to act as fertilizer(?check). Build 1 atmosphere and you're done in 24 hours. (Note: please test this and feed back to me your results.) Amortize this value for less pressure (½ atmosphere = 48 hours of processing). Use yogurt cultures containing *Lactobacillus acidophilus*. Slightly elevated temperature helps reproduction of cultures, while higher pressure helps processing by those cultures.
- *Small-scale (no excess water)*: Crushed ash or soot (from wood stoves, coal-burning, etc.) is the simplest and most effective combinator that will neutralize negative aspects of solid waste and can be sprinkled onto it directly, enough to cover. Add carbonaceous material (completely dry, crisp leaves; rough, dry bark or sawdust) sufficiently to absorb liquid waste. The basic idea is to balance the Nitrogen with the Carbon (actually: the binding surfaces of your carbonaceous material). For fastest processing, add yoghurt culture, agitate it to coat all surfaces, and contain it under pressure where it can transform in roughly two weeks (duration a factor of homogeneity of mixture, quality of bacteria, temperature attained). Quicker times can be gained by stirring (energy to transform 5x weight of waste=5 days to process) and ventilating daily to keep bacteria from suffocating. Stop when odor no longer changes or pressure no longer builds. Let air out. Add water and check for odor. If odor is eliminated, it's ready to be made into dirt. Add regular dirt and mix this 1:1. Best to not to use on edibles until after a season, and may not want to place near water sources. This is good for personal, small-scale use, like outhouses. (Note: wild animal waste from uncontaminated food supplies doesn't need processing, but can be added with water and sprayed.) **Edit: $\text{days_needed} = \max(1, \text{if}(\text{psi} < 1, \text{recip}(\text{psi}) * 14.7, (14.7 - \text{psi})))$.** **If you have less than 1psi and want faster time check for salt, dead culture, or some other contaminant or apply warmth (100degreesF).** What is happening is that a negative dimension of interaction is happening to make interesting relationships, including the start of mycelia growth, which is why it only takes one day of time (creation). *Large scale*: After passing all EPA regulations, add a final aeration stage: textured concrete where water flows with sufficient speed to "polish" the water (look for white). 100ft minimum recommended and check for slime build-up on concrete which shows the process is working. This is not contaminants, these are textures from the memory system of GOD in the water itself. Once dry, use this as fish food. Change the wastewater route so the slime can dry off and become inert. EPA should add one final check to water quality: conductance. Pure water will not conduct electricity. But poor quality, clean water, will form "slime": large quantum sheets of water where the molecular/chemical model of water is inadequate.
- Outdated: There may be no long-term, permanent solution. Lifestyle changes may be necessary -- probably composting toilets. While yeast can act as a go-between between waste and soil cycles, this is **not** an acceptable large-scale solution, unless you and your community are exceedingly *righteous* with God (Christians don't count). Water makes processing waste over 10x harder, so minimize. Slurry can be used for transforming sand or poor soil into healthy soil in a one-season application. The higher the nitrogen content, this easier for the waste to be transformed into *positive* fertilizer value. Freezing temperatures might make application impossible. Carbon balances nitrogen (sawdust and dry leaves are good), but you'll still need bacteria. Fermentation is the secret to transform waste into new value and will be necessary for the volumes

encountered there. Starter cultures for yoghurt are available at health food stores to seed the process of fermentation -- the more diverse the better until you find species that accomplishes what you want. *Containment systems* (tubs or bins that can retain heat and/or air pressure) along with shaking/agitation and comfortable temperatures will enhance the fermentation process ("open air return" is not recommended as mixture does not transform readily without the crucible of pressure). Compostable ground plastic might be usable for extra food. Positive indicators of fermentation are elevated *temperature* and *pressure*. Release pressure at the point before your containment system breaks and re-apply, but do this experiment: acquire a small, high-pressure container where you can experiment and see what increased pressure transforms the mixture into. With sufficient pressure, grey lime should be the end-result (untested). Compare this end-result to your existing large-scale system and add more days to see how long it takes to duplicate the high-pressure solution. Calculate the best strategy of equipment cost vs. processing delays to see if upgrades would be cost-effective. 7 to 14 days should be sufficient, if pressure is achieved. Salt may be added to neutralize excess "ripeness", possibly accelerating transformation. The slurry from municipal waste typically has low-urea content and about a minimum of 1:1 ratio with water:waste. Final stage processing (after meeting all EPA guidelines) is a waterfall of rough surface pebbles and rock into the river. For drinking, a final process of activated charcoal will do (replace charcoal once slime has appeared on the nuggets.) Water should run without excess force over the rock and get oxygenated -- duplicating the process of mountain sources before re-entering the rivers. Change rock once slime builds-up on the surfaces of the rock -- just like you need to change air filters. Spoiled rock can be placed on roadways, not into the river, where it will dry out and become benign and reusable if coarse rock is scarce. In desert climates, apply over sufficient acreage where runoff into waterways will not occur (ranging from 5 square yards/gallon to 500 square yards/gallon *per person* depending on whether it is occasional or continuous application and absorbency of soil), you can experiment with this cycle: waste -> yeast/fungi -> sunlight -> grass. This solution may be sufficient for a household leach field. Mixing with coal ash (probably 1:1) and/or dried tree bark/leaves (1:1) gives positive value. Apply special-purpose yeast or mushroom spores to the surface in an amount that is approximately $\frac{1}{5}$ volume to your solid waste (not including water). Start with a pound of yeast per 5 gals of typical slurry and experiment to see how much to reduce yeast as it should multiply. You'll need sunshine to transform *this* into healthy soil. Plant buffalo(?) grass to absorb this and transform it into green sod and add a few cows. This is all the meatXXX they should probably eat (and then your waste quality will go up too ;^>). **Remember: *bacteria cultures for off-ground processing, yeast for on-ground processing.* It is rumored that adding gasoline (or non-food-grade animal/vegetable fats) will collate the wastes into the gas mixture as the bacteria prefer it and the dynamic will attract it to the gasoline. Alcohol or some other volatile compound will be the waste product as the bacteria will consume the gas and emit alcohol gas which can be distilled into useable fuel (albeit less volatile than the original gasoline) using ultra-cool temperatures (liquid nitrogen) and hermetically sealed systems (no visibility), so that room-temperature alcohol can emerge.**

- *Counter-indicated:* Large amounts of water dilutes and delays the processes of fermentation, and you'll have to elongate normal processing time by a factor of your water-to-waste ratio *and* more breathing periods will be necessary because the interaction with the otherwise life-giving properties of water confuses the process. The amount of breathing periods is roughly equal to that same ratio (subtract one from your numerator). Don't use water above pH of 7.0 (alkaline) for waste treatment..
- *Positive indicators:* Presence of fungi growth and gray mycelia is the indication of waste in transformation. In the case of the waste-water treatment land, it should not be open for general use until after an annual cycle of non-application has occurred and a living ecosystem is present and observable. This will require sunshine to transform the otherwise undesirable fungi.
- In closing, demanding soil large acreage to transform waste (or composting toilets) is a far better solution than poorly-understood EPA "concentration standards" and a *small* price for a city to pay for population concentration and you can create useful sod with all the irrigation value. For cities close to the shorelines: you're just going to have to

pump it upland or invent new methods at sea boundary. (Addendum: Bird waste notably does not have much fertilizer value and *time* must do the work, in cooperation with the four elements. Also, chlorine does nothing to “disinfect” animal waste -- it only destroys *living* cells, and in fact, should *never* be added to water.) ***This process assumes that the Biblical storyline is transitioning as expected, and winters (and summers) will be milder.***

- **Animal corpses, meat:**
 - *Negative aspect removal:* Place corpse in nice bedding like grass under a tree, away from human habitation and water ways,. Don't place corpses close to each other, separate from each other in amounts of natural range of the animal. If you can't do this, consider it a sign that something is out of balance as it's not natural for animals to die together.
 - *Positive value generation:* cover with sawdust or corn pollen for animal corpse, soil for meat. Say a prayer.
- **Concrete refuse:** Drop concrete into artificial lake beds where the waste is no longer an eyesore and provides fish habitats for breeding and health. Be sure to drain lake properly so fish make it out without suffocating.
- **Heavy metal contamination:**
 - *Negative aspect removal:* Apart from Mercury, heavy metals can be positively remediated by powderization and purification into its elemental form. There is no good level of Mercury within aquatic systems. In soil, bury in inert dirt and remove focus from it. It will re-absorb from other dimensions. Sunflowers will likely have affinity. It probably has more value to industry where it can be readily re-used. Aluminium also has better re-use in industry, rather than earth, and is probably underbought at half of it's real market value. Don't use it for soil. Only neutral for aquatic systems.
 - *Positive value generation:* Mix powdered, elemental forms with 1:30 ratio (by *weight*) with dirt, or 1% of total volume, maximum. These elements contribute to vibrancy of flowers and should have a market in the potting soil mix where such soil will never be used for foodstuffs. Such use should include warnings not to use near food sources or re-use soil for such. Re-usability of soil will depend on how concentrated the mixture was.
- **Plastics:**
 - *Negative aspect removal:* You'll need enzymes, heat, and/or light to break them down. For clear to translucent recyclables (pretty much everything but cellophane actually), ground into powder and follow directions under positive-value generation and put to the sea. For others, the techniques under styrofoam may be sufficient.
 - *Positive value generation:* I suggest that clear plastics have food value for fish.. At minimum, the recyclable plastics (esp. corn starch) should be valuable as fish food. Sell plastic to fish-food companies or distribute ground plastic to the sea which forms a vast, secondary digestive system for the earth. Report results.
- **Polystyrene (Styrofoam) and volatile compounds:**
 - *Negative aspect removal:* Minimize usage in disposable products. For volatile compounds, fire and water elements are best. Water-dilution for non-alcohol compounds (and then apply to dirt), otherwise burning is probably most effective (don't inhale fumes) or exposure to sun. At minimum, prevent exposure of volatile styrene to ozone. Waste products from this process might be raw input to educational/trade sector (materials sciences).
 - *Positive value generation:* Probably the best procedure is to use a solvent (like waste gasoline or acetone). Mix with sand, burn, then bury. Otherwise follow instructions under “industrial waste” for liquid waste, being sure to abrade the resulting mixture until all bonds are broken and allow the solvent to evaporate. Burning still might be good. Exposure to sun and air should remove remaining volatile compounds.
- **Glass:** Glass, like metal is one of the products of the universe that comes from a different ring of power other than earth dimension. But unlike metal, glass is too related to the life-force of the vegetation, so the best routes of disposal, if you're not going to offer deposits and reuse the glass is a marine environment, is to return it to the sea.
- **Exhaust gases from combustion:** Exhaust gases generally are the burnt refuse of nature itself and are possibly non-atomic, negative-dimensional matter, so requires other negative-dimensional matter like water, metal, cannot be easily remediated. Platinum or silver surfaces can be made collect such contaminants, but you may have to sacrifice the purity of

the metal, about 1 cu ft = 1 gm of metal. The capacity of remediation is about 1:1 of the un volume. That's a lot of metal for a combustion engine, so think about your real use for the engine..Use a tower that gets gases above the treeline where it does not visibly reach biomass. Eventually undesired contaminants can naturally be sent to the boundlessness of space via processes with which the author has become familiar, but this doesn't remove the consequences of over-consumption.

- **General Industrial waste.**

- *Negative aspect removal:* Aim for closed-loop industrial cycles where every industrial by-product is an input somewhere else within the (industrial) economy¹. Separating compounds can make it more bioavailable or facilitate commercial re-use. Volatile compounds, plastics and metals follow instructions under their respective sections above. **Stay away from waterways and groundwater.** Store it, otherwise, until you can follow these directions. For oil-based waste, follow instructions under petroleum waste. dry, inert (non-bioactive¹) dirt is your best ally, mix with abrasive sand⁵ if waste is oily or fatty, in a ratio of the oil:non-oil compounds. The key idea is to abrade the waste until it gives up its bonds and maximize contact with the high-surface area of dry soil for mineral re-binding, although burning could be considered if you have a stack to get it to the upper atmosphere. In either case, add dirt until there is no flow. Different soil will perform differently, so you'll have to experiment to see how much dirt it will take. Then, multiply by 10-15x to account for seepage once you bury it. If in area with heavy rains, perhaps a factor of a hundred (100x).
- *Positive value generation:* As given at the start, find and plant grass varieties which thrive by working with a horticulturalist to find and document good pairings (species<-->compounds). This is a small request for dealing with strange industrial by-products. Also, if you're a producer of "biodegradable" plastics or compostable material, stamp the break-down temperature on your product.

- **Household waste:** If you've followed the mantra at the beginning of this section, all you have left is compostable and recyclable waste material, right? Your local "freecycle" internet mailing list or repair centers can find new homes for other things, working or not. Other waste, follow specific sections as able. Dead alkaline batteries, you *could* give to recycling center, but can probably (do not throw any white: the abyssal processes in the deep can't process the color white) throw into the ocean where the salt water will make quick and better use of them (seal broken?: fine). Otherwise shame on you. Where water-levels allow it, below-ground burial is superior to above-ground "burial" (like by Denver International Airport) as decaying trash seepage won't flow into your normal-level areas. Cost for such poorly-managed waste is probably around US\$10/ft³ (~\$5 uncontained biomatter to \$25 consumer electronics). Time-length for remediation is probably exponential to (depth of trash x trash weight / dirt volume), use *wider* area if faster assimilation is desired. In either case, do not manage vegetation at surface. Allow weeds to compete and take over until Nature itself finds the right species and balance. It may however be worthwhile to try species known to create deep *searching* root systems. Worms might also have the right enzymes for rapid transformation.
- **Food scraps: Compost.** Despite the effectiveness of other methods, they generally rely on the Tree of Life to do the work, it's best to use the "English compost" method: make a shallow(?), closable bin. Add earthworms. Avoid citrus peels--bury into the bushes or use in soap as a grease-adhesive.⁹ Keep covered. Cycle some of this material eventually to your garden compost heap.
 - ~~Positive Value Generation: Raw food, vegetarian food scraps can be used to make "compost tea"⁸. Put in a container that holds pressure. Cut a spout at the bottom with a valve. Put in food scraps and just enough water to keep moist. Ideally, you should have a system that doesn't lose pressure. If you don't have such a system, chalk can be added to make effective. Wait until you're about a third full and you can start tapping the black liquid that will come out of the bottom for use as fertilizer. Pour in water at rate in which you remove the liquid.~~
- **Wood scrap:** Cardboard, newspaper, and scrap wood have a lot of fuel value. That's probably the highest payback. Otherwise, there is a lot of interest in recycled wood, otherwise, use it to balance nitrogen for composting -- the finer the particles, the more speedy and effective.
- **Pharmaceutical waste:** Pills should *not* be flushed down waterways. Crush and throw in the trash. Otherwise, mix with mineral oil and crush. Mineral oil will prevent plants (and animals)

from getting confused by medical compounds. Bury deep enough (no bottle and below root depth!) where it will not to be re-encountered again and mix with gravel.

- **Petroleum waste:** Oil can be mixed with sand⁵ 1:1 and simply buried back under the soil, the deeper the better, away from water stores and root systems. The finer the sand the more surface area for which to absorb oil. The idea is to break the long bonds through abrasion. Dirt will work as well, but don't use dirt intended for planting. Dirty gasoline can be used for styrofoam processing (see above). For surface spills, pile dirt or fine sand at least equal to the depth of your contamination or relocate soil if near water/roots. In any case, there is no ability for it to integrate back into the cycle of life -- oil acts as a power store for Earth history as a whole, and root systems won't (and shouldn't) use it as it represents their own dead bio-matter.
- **Coal Ash** (power plants):
 - *Negative aspect removal:* Keep in dry form. Contrary to some myths, such ash is not radioactive.
 - *Positive value generation:* Dry coal ash is the best combinator for use with solid human waste. As such, it has market for use with compostable toilets and "honey bucket" companies. See prior section on "domesticated waste". May also be useful for treating wood to prevent decay from moisture.
- **Nuclear waste:** Here, the best idea is to melt it down⁴. This should remove radioactive properties. NOTE: This works if you have no karma with YHVHpi. If you can then grind it down to powder (do not breathe it), then treat the same as under **heavy metal** section. (Radiation, notably, is not as much a problem for the earth where it has dealt with the problem for millions of years as it is for humans where it interacts with their belief systems and who wish to habitate around it.) If powderization is not available, then bury it 50 feet from water sources or root systems and in the wild/desert, where they will not pose an "interest" for anyone. Keep the four alchemical forces mentioned above in balance. Signage is not suggested.
- **Did I miss something?** E-mail me and I'll work with the secret labs of Middle Earth to find you a solution.

The above material is some of the best on the planet. Contact me personally for any accountability or authority issues for any of the suggestions listed here. It is on par with the best the EPA or any other official organization has to offer (who, despite best intentions, are generally shooting in the dark for a target they do not quite understand).

As a general rule, complete and safe transformation happens when total mass of waste is transformed into equal mass of fungi and/or plant material.

In closing, if you meet just 50% of the first-section recommendations, you will have a healthy environment in which to enjoy Nature. If you meet all of them, you will have helped create **Eden III!**

Regards,

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updates: Gothenburg, Nebraska, 2014, 2015

¹ William McDonough, Cradle-to-cradle.

² Bernard Lietaer, equation for biome resilience

³ For general inspiration for these processes, credit is given to James Lovelock for the Gaia Hypothesis (earth as a self-organizing, living system) and hippy culture which certainly inspired it. Shout-outs to White Mountain, New Hampshire recreation managers, Big Island permaculture experimenters, Findhorn Garden, and Dancing Rabbit commune members!

⁴ Some credit for this goes to Sir _____???

⁵ Credit to _____?

⁶ strangely, a caterpillar

⁷ Inspired from Nebraska Game and Parks Commission report for Lake Helen remediation project for

Gothenburg, Nebraska, 2012

⁸ Kalapana Man, mile marker 19, Hawaii.

⁹ Rebecca Steven?, Gothenburg, NE

*Bill Mollison is credited for coining the term and starting the concepts of permaculture. Thanks also to Alliance Nebraska greenhouse “farmer” who just needs to add aquaponics and a connection to the Creator (for leave decomposition) to create as near as can be perfect terrarium. (He might need to give the bounty of fruit to local kids or schools to form a virtuous loop that enhances the larger society.)

Note: See me at github.com/Xer0Dynamite if you seek understanding about this interaction between the Tree of Life which is strictly a balanced male/female and the [ein sof] which is an ungendered (non-binary) order within YHVHpi.

Ecosystem Diagnostics (in progress):

Every type of insect tells the ecosystem manager something about their ecosystem. They must be directly witnessed by the eye (not inferred, even if you hear them), yet if you go searching for them and disturb items in the ecosystem, the Tree of Life might insert them there for you. So these you don't diagnose (like grubs or beetles found underneath rotting wood). Otherwise, I've made a crude mapping, which you are welcome to improve.

Bug	meaning	What to do about it
ants	Deficiency of Hebrew world's dominion/Old Testament	Stop discounting Old Testament history
bees	Human female deficiency of effort	Eve needs to take more power
beetles	Lack of Justice in the world	Need more effort by those in genus <i>homo</i>
boxelder bugs	Too much conservatism	Stop hating on the liberals
butterflies	Nothing, a holding pattern for Man's Journey of Knowledge	Plant more flowers if you like their appearance.
cockroaches	You've failed YHVH-GAIA	Ooops. Sacrifice yourself in some way.
centipedes	Urgent problem, usually personal	Could be anywhere on Earth: note is all.
crickets	Excess time/langor	Subdue the Earth, hold dominion over Earth
dragonflies	Human male deficiency	Get thinking about your world and leading it, more F->M affection.
fleas/bedbugs/c higgers	Anger/hatred from animal kingdom/goddess (itching by dogs/cats does not imply fleas, you must witness them)	Restore temperate climate, slow down civilization, reduce meat
flies	Human female agitation.	If you're a M, you're doing something against the F. Too much male medicines.
gnats	Deficiency of Sabbath	Give back to GOD
grasshoppers	Innocence in pain	Fight for justice in history
horsefly	You're going against the Arab F heart.	Respect the Old Testament and the source of domesticated grains.
ladybugs	Insufficient child energy or indian female in distress	Build a world more for children rather than adults. Repair damage from history.
lightning bugs	Waiting period for Messianic Age: darkness transformed to light.	Implement new Law: Novus Ordo Seclorum
millipedes/rolypoly	Child-self in crisis	See how children are in distress: are they getting sick, for example
mosquitos	Mammalian female love need	Don't rely on male structures, Eve in need. More M->F love.
moths	Death in the human male, a place holder for the interaction between perception of it and the soul.	Subdue the earth, if you're a woman, put your heart with the cross or Jesus so you feel where the male is in need. It's the only way.
spiders	Earth dream protectors and watchers	Are you helping or hurting the Earth?
stickbug	Tree of Life in distress	Act NOW to care for the Earth and Trees.

ticks	Adam anger	Stop being an atheist (~90% probable)
wasps	Genus homo male agitation	What are you doing against GOD (or possibly gay/elven races)?

TABLE 1

Notes (not integrated):

Ecoscore, above water, Worksheet v0.5

Place: _____

Date: _____

Examiner: _____

_____ **Human integration score:** (GAIA side)

_____ Positive: networked domiciles (* utility (for off-grid computers, p2p apps only: email, doc-collaborating, appliance control,??, otherwise other methods of staying networked w/o computers: p2p paths, string, bells...)??), group buildings (incl. Playground) * human-unit,

_____ Negative: each motorized or on-grid item * gal of use or 36kwh on grid; trash outside receptacle (incl. overflowing from one), on-grid objects; closed dwellings (HVAC systems, off-grid but closed facility), septic systems (or sewage disposal). #lbs of trash leaving the area(?), each prescription of non-herbal medicine, -1 for each floor above ground level or each floor below 1 basement level. .

_____ **Animal score:** multiply the sum below **x5** and place here

_____ Positive: add 1 for each free "species" of furry mammals (use second sighting for continuous record-keeping) * 2 if in a M/F pair,

_____ Negative: caged/leashed animals (including farming operations but don't multiply by x5).

_____ **Aquatic score (rivers and lakes, for ocean score, see below water worksheet): x5**

_____ Positive: add 1 for each active fish (moving or in current) + 5 for schools of fish,

_____ Negative: -1 for each catfish or other gelatinous-coats, black-spotted fish species, presence of sunlight-blocking "algae" (per sq yd). -1 per 20yd (20x20 if lake) if can't see due to poor water clarity.

_____ **Avian score: x5**

_____ Positive: +1 birds in song (+1 more, if you spot their mate), nests,

_____ Negative: -1, black birds or buzzards, absence of nesting structures (trees, cliffs only).

_____ **Vegetation score:**

_____ Positive: +1 trees (don't count mixed trees pine and deciduous, count one or the other, but not both), +1 more for fruit/nut trees, every 20x20yd of green, +1 more if flowering plants in same square..,

_____ Negative: sq yards of non-green/non-water/on-grid or 20x20yd parking lot area, -1 more if area is a bio-hazardous zone.

_____ **Meta score:** (YHVH side)

_____ Negatives:

-1 for each insect kind (not including grubs or multi-pedes)

-10 for each reptile

-1 for each old-\$ equipment (things you can't make yourself, except 2nd-hand clothing),

_____ Positive: +1 composting area, proper currency transfer (each \$1) of civilization, # people adhering to new, open government (global village page at appropedia.org).

----- **TOTALS:**

_____ **Credits** / _____ **Blocks** scouted (100 yd²) = **Ecoscore:**

****** Notes to fix:**

* Assess multipliers for proper balancing of the main equations. Fish/mammals/birds are considered 5x the ORDER of vegetation, which doesn't keep a mind.

* clean up the human integration section and others...?

* adjust the worksheet to work for neighborhoods.

* "+1" should be read in the imperative, not declarative, sense; meaning, +1 for each species = add 3 if three species.

Eco score, for below water Worksheet.

_____ Human integration.

_____ Positive. +1 for non-motorized recreation type visible: surfing, kitesurfing, snorkeling, swimming, scuba diving. Domicile with proper composting

_____ Negative. -1 for each lbs of human trash floating in water or at shoreline. Each boat of motorized, commercial fishing (commercial sailing vessels catching fish as a side effect not included), smell/use of sunscreen

_____ Water health

_____ Positive: +1 for each foot of visibility

_____ Negative: -1 for ppm contamination, for each dead fish floating in water or shoreline

_____ Bottom surfaces (Earth element)

_____ +1 cement refuse used as fish habitats, sandy or pebbled bottom....

_____ -1 smooth, dark surfaces which have the same color of the water's ambient color

_____ Vegetation score

_____ +10 for coral reefs

_____ -10 for shoreline of floating seaweed (kelp found at shore not included)

_____ Fish health

_____ +1 for each colorful fish variety, not cephalopods or other non-vertebrates

_____ -1 for jelly fish or other stinging varieties (consider these as hints to overall oceanic health).

_____ Meta

_____ +1 for each dollar of new economic value (new \$), including power generation.

_____ -1