# What Hath God Rot?

by John Bates 12/1/15

"Think of the starving Armenians," my mother would say whenever my brother and I tried to leave the table without cleaning our plates.

"Okay," we'd say. "Let's box it up and send it to them."

She would look gravely at us. "It would rot and go to waste." Then, with a pointed nod toward our plates: "Eat."

And so we would, stuffing in more meatloaf or peas or pork chops, grumbling about the damn Armenians. We didn't know, nor care, about the genocide in eastern Turkey in which up to a million Armenians were murdered or died of starvation.

My mother, too, was likely served this admonition during her childhood dinners. The Armenian "cultural cleansing" occurred during World War I, and she was born not long after, in 1924.

For her, and for us, it was one of many lessons around the concepts of "rot" and "waste."

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When we were young, my mother canned and froze various foods, as did our grandmothers, in the name of avoiding rot and waste. I was a child of the 50's, the generation after two world wars that bookended the Depression. My experiences of life and death were utterly unlike my parents' and grandparents' experiences. There was the flu pandemic in 1918, which killed 675,000 people in the U.S. (20 million worldwide); bank failures, massive unemployment and upheaval during the 20s and 30s; rationing during WWII in the 40s; a polio epidemic in 1952 (58,000 cases). Those were times of want, of fear, of constant uncertainty. Waste and rot were enemies. Waste not, want not, we were told, over and again.

Before those times, however, the early Euro-American settlers had a conflicted view on waste, in particular regarding forests. Wood was incredibly valuable, entering into every walk of life. Wood built most buildings, bridges, wagons, railroad cars, fences; was mine timbers and wooden sidewalks; was the fuel for stoves; made the steam that drove engines, sawmills and factories; made heat for smelting iron ore; was the bark for tanning leather. Wood was also made into shingles – 85 billion shingles were rived from white pine for the roofs of settlers' homes in a 24-year period in the Lake States, my home.

But wood was also in the way of farms that needed to be planted immediately. As Increase Lapham wrote in 1855, "It is much to be regretted that the very superabundance of trees in our state [Wisconsin] should destroy, in some degree, our veneration for them.

They are looked upon as cucumbers of the land; and the question is not how they shall be preserved, but how they shall be destroyed."[i]

A match helped to clear a forty, but fire was hard to contain. Historians estimate the amount of timber lost to fire ran as high as 20% of Michigan's original 380 billion board feet of sawtimber. In Wisconsin, Filbert Roth speculated that "26 billion feet [of pine] was probably wasted, chiefly destroyed by fire," or, like Michigan, about 20% of the pine in the northern counties. But it may have been much more. Robert Fries conjectured in his book *Empire of Pine* that "perhaps more good pine timber was burned than ever reached the sawmills."[ii]

The Detroit Post saw the fires as lighting the way of civilization:

> "Where the fires have raged, the forests have been killed . . . There are square miles and whole townships where the earth is bare of everything . . . The trees, the underbrush, and all the impediments to agriculture, it usually costs so much in toil for the pioneer to remove, have been swept away, and the rich land lies open and ready cleared for the settler . . ."

Meanwhile, the lumber industry argued they had no choice but to cut the forests as fast as possible because of the danger of fire: "Pine must be cut speedily to save it from being destroyed by forest fires. It is a question whether this valuable timber shall be saved to be used for the convenience of human beings, or be wasted by destructive forest fires. If it is to be saved, it must be cut as fast as possible."[iii]

The plow was intended to follow the ax, the pastoral to replace the wild. The conversion of the Great Lakes forests from pine and sugar maple and hemlock to burned-over wastelands, and then to "weed" species like aspens constituted "probably the largest human-caused forest type conversion in history."[iv] Between a fifth and a quarter of the forests of northern Wisconsin, Michigan, and Minnesota were converted to sun-loving aspen.

Settlers didn't see the destruction of so much valuable wood as wasteful, but simply necessary.

All of this is to say that we have a complicated, if not at times twisted, relationship to waste.

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Waste is something perceived as unwanted. But is also means:
1 - to fail to use (something or someone) in an appropriate or effective way
2 - to lay waste; to damage or destroy gradually

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When I think about what we see as "waste," weeds come to mind. Susan Knight, an aquatic plant ecologist, says a weed is simply a plant without a press agent. She should know. The names of a remarkable array of aquatic plants end in "weed" –pondweeds, pickerelweed, smartweed, duckweed, shoreweed, et al. All of them perform valuable ecological functions, yet most lakeshore owners pull them and later complain about the loss of fish or the erosion of their shorelines.

Weeds are also plants out of place, or out of season or time, or too numerous. The "right" place, the "right" time, and the "right" number, of course, are vagaries of human perception. Things we often feel we can throw away, that we see as waste, are like the PR-deficient weeds. The carp that is a "trash" fish in Wisconsin is highly desired in Asia; a tomato plant flourishing in the perennial flowers gets pulled; an eastern hemlock in a managed aspen forest gets cut; native understory species in industrial pine plantations get herbicided. Is waste, then, more a matter of needing someone to appreciate it, perhaps a PR firm to annoit it? After all, a plastic bottle in the landfill becomes a cup for the thirsty, old sheet metal a roof for the homeless.

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"It makes my heart hurt to see all those trees going to waste," said the head forester of Wisconsin's largest state forest. He was talking to me about his pleasure in fishing for lunker bass in Sylvania, a designated wilderness area in the Upper Peninsula of Michigan that supports some 15,000 acres of old-growth forest. The old-growth trees he so disvalued line Sylvania's many lakes, contributing to the pristine conditions that make those fish so big.

In his mind, old-growth trees have exceeded "economic maturity" and are "going to waste." The state forester, with boards and cords as his mantra, couldn't see the many values of forests beyond the trees.

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Then there's rot, the precursor to what some determine to be waste. To "rot": from the old English *rotian* – to rot
1 - To decay, spoil, putrefy, decompose
2 - To languish, deteriorate, atrophy, decline - a slow change from a state of soundness
3 - To become morally corrupt

I made a quick list of things I want to see rot and some I don't want to see rot:

| Good Rot! | Bad Rot! |
|---|---|
| tin cans in the woods | my car |
| old boards that I can't burn | my house |
| our compost pile | food in my cupboards, refrigerator |
| plastic stuff no longer usable | my plastic glasses frames, watch, jump drive . . . |
| the leaves in my yard | the vegetables in my garden |

| | |
|---|---|
| old shingles | my roof |
| ripped clothes, bald tires, etc. | my newer clothes, new tires, etc. |
| other stuff that I throw away | other stuff that I still use |

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In the Oregon Cascades, I sit with my back against a massive Douglas fir tree in the Andrews Experimental Forest. Across the path is a western red cedar, just as big – probably 20 feet around. Lying on the ground all around me are giant logs covered head to toe in mosses and lichens, with lines of seedling trees sprouted on top of the logs, all cued up for their race to the canopy if one of these grandmother trees topples.

The definition between "live" and "dead" in trees is complex. Live cells within a conifer only comprise about 10% of the tree (leaves 3%, inner cambium 5%, and ray cells in the sapwood 2%). However, as much as 35% of the biomass of a dead tree may be comprised of live fungal cells.[v] Thus, a decaying "dead" log may be biologically more "alive" than it was when living. Add in the millions of tiny arthropods and microscopic critters, all the mosses and lichens, and a whole city is happily at work in and on the logs.

This is where the rubber hits the road in ecology, or perhaps where the trees hit the ground. I'm trying to wrap my arms around what is rot, and what is waste. Rot is happening all around me here, and though this wood is decaying/rotting/going to waste, it's quite beautiful really – such a cornucopia of greens. I wish I knew how to distinguish each moss and lichen from the others, to give them the dignity of their names.

With their death transformed into so much life, I wonder if it's a pleasure for trees to know that when they die, a community will appear. Surrounded by all this rot, by mosses which are draped everywhere like Christmas tinsel, I see no waste here. This is the forest's version of a mausoleum – a mossaleum – except there are no embalmed bodies. Quite the contrary. This is death robust with life. I'm reminded of how I pray every morning to be of greatest service. This prayer is surely answered for trees in their death, something I'd love to think could happen with my body when I die. But in today's world, the human body left behind in death is a very different thing. The only way for us to still be of service in death is through the legacies of our past actions, of how we've chosen to love.

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After an hour or two communing with all these mosses and meditating on rot, it's hard to not get a little giddy. I can't help myself – I start punning on rot:

Rot n' roll.

There's a whole lot of rottin' going on.

Rot is not for naught.

Got rot?

Born to rot.

Yotta know rot . . . which reminds me that we used to play a game with our daughters called "Yotta Know Birds," a sort of flash card game for identifying birds. When our youngest daughter was tested before going into prekindergarten, the teachers were upset that she couldn't identify a fire engine or an ambulance (we lived in the country and so seldom saw them). They thought she might have some kind of learning disability. That is, until we said, "Ask her about birds." She could name dozens of birds that the testing folks didn't know.

They let her into pre-K.

Perhaps we need a version of "Yotta Know Rot," so we can learn all the species that thrive in rot.

John Magnuson, an emeritus Wisconsin limnologist, has written about the "invisible present," the slow processes that we don't see happening because we're so busy twitching along in the immediacy of our lives. Another ecologist has written about the "invisible place," the spot where we are right now, but which we often know so little about, or least nothing about the natural order that occurs and occurred here. Surely, these rotting logs around me embody the complexity, the essence, of the invisible present and place. Two hundred years hence, they will have crumbled, disintegrated (or is it integrated), creating a biological topography of long undulations in the landscape, often outlined by rows of even-aged trees now a century old and appearing to have been planted by a human with too linear a concept of forests. Like slow cooking, this is slow rot. Can I foresee this process over centuries? More importantly, can I appreciate this? Actually, there is so much beauty around me that I can take another step – I can revere it.

Before you stereotype me as just another tree hugger, let me say I appreciate roads, burn good firewood, have nailed thousands of board feet of wood siding and paneling, and have laid and varnished many hardwood floors. I write on paper and sell books that are printed on real paper.

So, I have no problem with using our utilitarian brains, like all people have since we started walking the land. However, among many other concepts, we need to expand our concept of utility, and by doing so, redefine rot and waste. Perhaps, like slow food, we need a slow rot movement.

So, to the point: What hath God wrought/rot?

To "wrought": from the old English *geworht* – to work.
1- worked into shape by artistry or effort, fashioned, molded
2 - ornamented, embellished, adorned, garlanded, illustrated
3 - consummated, finished, brought to pass, realized, perfected

4 - deeply stirred

The definitions of rot and wrought appear to diverge, but I see the words as cleaving, cleaving in the two very different meanings of the word – to both split apart and to stick together. "To wrought" is to fashion, to shape with artistry. But it is also to consummate, to finish, to deeply stir. God (evolution, et al) has fashioned/perfected/adorned this world with astonishing life, all of which must, and will, perish at some point.

"To rot," from my vantage point next to these elegantly decomposing logs, is also a process of shaping, of finishing, of stirring. In this forest, the process of life and death feels beautiful, even joyful. If I had been here when these trees fell, I would have mourned them, but only because at that "invisible present", I couldn't see how this place was to be fashioned by the artistry to come. I would be blind to the deep stirring that was only just beginning. I would have felt too much loss to foresee how life and death would cleave together, to cause something new to become.

My carpenter brain reminds me that I could have made fine joists, excellent boards, perhaps gorgeous flooring from these massive trees. For those purposes, the trees have been wasted. For the purposes, however, of making possible a myriad of life forms, the trees have clearly not been wasted, but utilized in a larger, slower endeavor, one that God (in all of her synonyms) would see as a transformation, a consummation – a finishing and a beginning.

As for my mother and the lesson on wasting food and the starving Armenians: I have learned to take only what I need.

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[i] "It is much to be regretted" Increase Lapham, *The Antiquities of Wisconsin* (Washington, DC, 1855).

[ii] "perhaps more good pine timber was burned" Robert Fries, *Empire in Pine* (Madison 1951).

[iii] "Pine must be cut speedily to save it" Detroit Post, 1881, in Stephen Pyne, *Fire in America* (Seattle, 1982).

[iv] "probably the largest human-caused forest type conversion in history" Lisa Schulte, et al, "Quantitative classification of a historic northern Wisconsin (U.S.A.) landscape: mapping forests at regional scales," *Can. J. For. Res*. 32 (2002).

[v] "as much as 35% of the biomass of a dead tree may be comprised of live fungal cells" Jerry Franklin, et al, "Tree Death as an ecological process," *BioScience*, v. 37(8) (1987).